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EDUCATIONAL RESEARCH IN THE NEW SETTING.

BY SIR FRED CLARKE.

I.—*Introductory.* II.—*Present form of the question.* III.—*Threefold role of Britain:*
(a) *Partner*; (b) *Interpreter*; (c) *Reconciler and mediator.* IV.—*Tentative conclusion.*
V.—*Some pressing claims for research.* VI.—*Final suggestion. Addendum.*

I.—INTRODUCTORY.

It is no part of the purpose of this paper to project, or to examine in any detail, actual schemes of educational research, though some reference to them will have to be made. What I am attempting is something both more and less ambitious. From many quarters there are indications that the recognition of great changes in our English situation, internal and external, is being accompanied by a new and richer understanding of the extent to which our chances of coping with the changed situation depend upon our capacity to bring about the necessary adjustments and developments in education. This, in turn, is leading to a much more widespread understanding of the importance of organised research into our educational problems.

It is not a mere hopeful optimism therefore that causes one to speak of a new setting. When documents like the White Paper and the Norwood Report lay serious emphasis on the need, and when Government declares its intention of making suitable financial provision, we may surely assume that the new setting is here. No longer is the term 'educational research' to mean just the able and assiduous cultivation of a few selected patches by a handful of indomitable pioneers, hampered too often not only by lack of recognition but by those amateurish and pretentious adventures by the ill-qualified which can do so much to discredit the cause. It would seem now that we can look forward to the prospect of a much more adequate national organisation, and much wider general understanding and support.

If this is so, then occasion should be taken for a broad survey of the prospect in the light of ruling tendencies. Of these there appear to be two which concern very closely our present subject. The first is the vast upheaval in culture—the crisis of culture—which is now shaking the world and throwing up in its process great wars, sweeping revolutions, and convulsions that seem to go to the depths. At the same time, another process can be detected, that of the new growth emerging, as yet but dimly and hazily, through the rifts and cracks of the bursting crust.

Those who interpret 'reconstruction' in the all too mechanical terms that the word suggests are apt to miss the true significance of this emerging new growth. Their planning remains on the surface of formal administration and takes all too little account of that deeper shift of values and beliefs to which, in time, the surface contours will have to correspond. What is truly significant in the sweeping movement of reconstruction is the growing realisation among the more penetrating observers that decision and action in the field of education lie at the heart of the problem.

In other words, the call to deal with catastrophe and chaos is once more serving to restore that direct relation between education and policy that the best of the Greeks understood so well. The breaking or obscuring of it is not the least of the ills that we suffer from, eras of stagnation or of the reign of false values. At such times education is apt to become either aimless and mechanical or actively pernicious.

In no country in the world is it so necessary as in England that the sense of this vital relationship should be fully restored. Education always is, if we only recognised it, the proper concern of statesmen as well as of pedagogues. It will certainly have to be so now in England; philosopher and king must come together.

II.—PRESENT FORM OF THE QUESTION.

If this estimate of the situation is at all correct our discussion may well take the form of an attempt to answer the question; What part has educational research to play in the equipment of England for the tasks she must undertake in the post-war world?

We can ask the question while realising very well that issues will arise in the field of education which no research as such can answer, however thorough and scientific it may be. And these may well be the most important and most decisive of the issues. It is still true, however, that research will lack vision, inspiration and driving power unless it is pursued with a lively sense of the all-embracing purposes which it is its business to serve. There is no reason why these purposes should be conceived within a narrow nationalistic range; indeed, every reason to the contrary. If we are sincere in the claims we make for the cause we have fought to vindicate then nothing which has significance for the making of the free citizen anywhere will fall outside the scope of our research interests. It may be worth while, then, to indicate briefly how the post-war task of this country may be conceived. Having ensured survival and vindicated our way of life in war we are now embarking on the enterprise of re-equipping ourselves for the tasks of 'peace.' They appear, in part at least, to be threefold, respectively those of partner, interpreter, and reconciler.

III.—THREEFOLD ROLE OF BRITAIN.

(a) *Partner*.—As partner we have to share in the life of Europe with a completeness of commitment such as we have never known yet. Also as partner, we have to learn, perhaps with difficulty and some perturbation of spirit, the attitudes and obligations of a genuine fellow-citizenship with the variegated peoples of the British Colonies. This latter duty, so easy to present in a sentimental dress, is one for which most of us are, in fact, as yet very little fitted even when we have imagination enough to see it as a duty at all. On the educational side what a vast field of study the pursuit of this double role as partner opens up! Is it not a chilling thought, then, that, so far as I know, there is not so much as a lectureship in any British university devoted entirely to the study of comparative education? It is hardly too much to say that we are farther behind in that matter than we were nearly fifty years ago when Sadler was doing his great work in the Department of Special Enquiries and Reports.

(b) *Interpreter*.—But more of this presently. The second role is that of interpreter. In what sense and between what parties? We are thinking here of this country's historic situation as the mother and nurse, sometimes opinionated mother and undiscerning nurse, of various 'new' countries. This long experience has left behind it a certain deposit of wisdom and a sense of the necessities of intercourse, which cast us for the role of interpreter between the ancient lands of the old world and those 'new' lands whose impact back upon the old is so striking a feature of the present war. In that impact a phase of history lasting over four centuries has come to expression. It is inadequate to speak only of Anglo-American co-operation. The real 'new' world extends from Alaska in a sort of broken crescent through both Americas, South Africa, and then is broken again by the Indian Ocean to be resumed in Australia and New Zealand. Practically the whole of it is reacting more or less strongly against the Fascist type of 'new order,' responding thus no doubt to a deep-seated historic impulse.

Placed as this country is, historically and geographically, in the old world, and yet, very definitely, in between the old world and the new, it must find this role of interpreter 'inescapable.' On the one side it must become more than ever the link with Europe, the source to which the new countries increasingly turn in maintaining contact with the ancient homes of their own culture. On the other hand, it becomes more than ever the channel through which the new lands make themselves known to Europe and take a part in the shaping of European destiny. In this respect war-time experiences may be taken as prophetic.

For such a part we are probably less well equipped than we realise. We know too little and our imagination has not sufficiently grasped the much altered world-system which is now taking shape. As regards education in particular, we have paid far too little attention to the growth and maturing of those re-edited versions of our own tradition that now operate in the United States and the Dominions.

There is a great field of study here, rich in reward and illumination for those who pursue it. Yet, wrapped up in our own insularity and influenced by that undetected English vice of complacent universalising of all that is English, we have not begun seriously the work of exploration. When we do we shall discover that the English tradition which, in re-edited form, now dominates education in these new countries, is not the one that historically has been dominant in this country. It is not the classical-humanist tradition associated politically with Church and King, but the democratic-realist tradition, which had a fleeting supremacy here in Cromwellian days and found expression later in the Dissenting Academies of the eighteenth century. Benjamin Franklin and Joseph Priestley were of the same breed and Comenius was the spiritual progenitor of both.

Failure to grasp such an elementary fact as this has already led to endless confusion and cross-purposes in cultural and educational relations between ourselves and the new countries. Such errors and ignorances will have much more unhappy consequences in the future unless the scope of our educational research is sufficiently wide to include studies that will help to remove them. Historical studies and studies in comparative education will have to find their place. Unless they do, we shall continue in undetected and dangerous ignorance even of ourselves !

(c) *Reconciler and mediator*.—The third role, that of reconciler, is as yet, so vaguely defined and opens up so vast a field that we will do no more than mention it here. Its main character is already fairly plain. Here is a country, England, rooted in tradition yet showing a much-tested capacity to adapt its life and institutions to successive changes in historical situation. Though habitually slow to move it has never yet failed to be in time. So here have grown up bodies of experience and attitudes towards change which seem to fit this country admirably for the office of mediator between—shall we say—the die-hards and the planners; the peoples tied to traditional loyalties and the peoples who have shown readiness to cut loose and plan a new order from the bottom up.

The bearing of this particular English function on our conception of educational research may become a little more plain in the sequel.

IV.—TENTATIVE CONCLUSION.

The main conclusion I should be disposed to draw from all this may seem somewhat paradoxical. I should agree that after the war we may expect a very considerable two-way cultural traffic between this country and the outer world, visitors coming to study English education and representatives of English education going out in response to calls that will come from many quarters. I should agree, too, and I have stressed it, that we shall need to broaden the range of our studies so as to cover adequately these relationships. And yet—and here is the seeming paradox—the centre of it all is here in England; the *firm home base* is all-important. We shall need to come to a far more adequate knowledge of ourselves, and to build up a mass of trustworthy equipment here such as we do not possess yet.

I confess to some scepticism and even uneasiness at enthusiasm for sweeping international schemes, for ambitious visions of world citizenship and world order, when the home base is still so little known and so inadequately equipped. I have myself met enthusiasts for educating mankind as a whole, beginning usually with the Germans, who themselves reveal the most startling ignorance of the conditions in which 90 per cent of the children of their own country are educated ! Let the physician first heal himself ; there is great need for his zeal in his own household. To say the least, is it not a little premature to set about, however unconsciously, to universalise what is English when what is English is itself so little known and so inadequately illuminated by the light that comes from systematic study ?

V.—SOME PRESSING CLAIMS FOR RESEARCH.

Taking this view we may now ask what are the fields of research which call most urgently for systematic exploration? Fortunately we now have in the White Paper the first instance in our history of a really comprehensive survey of national needs. True, there are gaps enough even in this, not we may suppose, as the result of inadvertence. Much will have to wait for later filling-in. But responsible opinion among experienced administrators and others seems to be overwhelming in support of the view that if legislative effect is given to the main proposals as they now stand we shall have a framework which will call for something near to twenty years of hard toil in the effort to clothe it with substance.

It is, therefore, primarily upon the necessities of this effort that any realistic programme of educational research should now concentrate. Here I can do little more than enumerate some of the main items that will have to come into the field of investigation. I would, however, suggest that we might well employ this interval between the publication of White Paper proposals and the beginnings of action by some systematic exploration of the field, accompanied by some tentative drafting of programmes. It would be a substantial gain if, with a minimum of delay, the many who are interested could reach general agreement upon a common programme and especially upon the order of priority.

There will probably be general agreement on at least one thing: that the most pressing task concerns that wide group of studies which derives urgency from the central enterprise of planning secondary education for all. This group seems to fall into two main divisions concerned respectively with:

- (a) The discovery and establishing of satisfactory *criteria* for the wise guidance of the sorting process which is now, apparently, to be applied to all pupils somewhere in the age-period 11-13.
- (b) The working out of suitable curricula for the various forms of secondary education as it is now to be provided.

As to the first, the special-place examination in its old competitive form now goes, and none should regret its passing. If some form of record-card is to play an important part in determining allocation to suitable further schooling we can agree that it is impossible to exaggerate the importance of either the form of the card or of the tests by which the entries upon it are arrived at. For here we shall be dealing with something more than just the allocation of pupils to appropriate courses. In a very real sense we shall be taking action which will have its effect upon the whole future structure of English society. We shall need then to know what we are doing and at every point to relate the details of technique to the larger interests whose ends they subserve.

As for curricula, no one, surely, can claim that we have yet arrived at a scientific well-considered basis for the choice of material for the education of the adolescent. Here it must be confessed that in this matter the Norwood Report gives us little or no help. The task is still all before us and, indeed, it is one that no committee-enquiry can discharge. It calls for wide-ranging enquiry and experiment by many agencies that will take years to carry through. Yet, while such enquiry and experiment will need to be conducted with all possible freedom and flexibility it will call nevertheless for a considerable measure of central guidance and co-ordination. It will call, too, for much study that does not appear at first sight to be very germane to the immediately practical issue. What, for instance, really is happening to western culture, the source of the curriculum? In what form and through what types of function will freedom persist in a planned society? What safeguards can we find and apply against the dehumanising and disintegrating tendencies of modern society which have so much to do with contemporary upheaval and restlessness? What is to be taught as matter of belief and what as matter of opinion?

These are a few examples of questions which go near to the root of our present perplexities. Yet some answer to them is assumed in any scheme of studies for growing boys and girls who will be adult in the coming years, whether we make the answers explicit to ourselves or not. We certainly ought to do so.

Again, we cannot plan a secondary curriculum wisely unless we take account of the

scope and purpose of adult education. The criticism that, at the secondary stage, we have been endeavouring to impose an adult culture upon children is only too well justified.

It follows from this, and indeed from the general outlook of the White Paper, that developmental and environmental studies of the kind of which notable examples have appeared recently acquire an added importance. We cannot have too many of them provided they are competently done.

Of special importance in this connection are studies in the development and life-conditions of youth, particularly of employed youth. Signs of the coming of a wiser insight into the needs and the educational handling of the adolescent are many and welcome. But they still arise much more from unchecked intuition than from adequate knowledge. Glimpses of the truth are provided now and again by luminous little books or by the results of interviews following upon registration. But there is still too much truth in the charge that we are embarking upon the enterprise of a national Youth Service with all too inadequate knowledge of the human material we are handling. Is it too much to hope that we may be able to organise a comprehensive co-operative survey covering up to, say, 100,000 cases distributed over a number of representative sample areas? This may sound over-ambitious but is anything less going to be satisfactory even at this stage?

Related to such an enquiry is a group of intricate and obstinate problems still waiting to be tackled in the field of technical education.

Within the schools there are still unanswered problems of teaching-technique to be worked out and new ones will arise in the changed situation. Any reader can mention a dozen or more so we need not specify. We will call attention only to one; the questions that arise as to the optimum size of classes at different levels and for different types of teaching.

What we have given are only a few outstanding examples of the kind of work that is pressing to be done. We need not here go into further questions of organisation and procedure. Happily these matters are being more and more widely taken up and there are welcome indications of the possibility of a joint effort that will at least lay the foundations of a co-operative national organisation.

VI.—FINAL SUGGESTION.

This article may well end by returning upon itself in some re-emphasis upon the importance of setting the task in that wide perspective which alone is adequate now. Our own home needs and our own home effort must provide the standing ground and the viewpoint of that perspective.

Perhaps I may be allowed to conclude the matter by a more personal word from one who has had some opportunity of observing education as it proceeds in some other countries. I returned to England with the strong conviction that the root of the matter was here. In spite of some occasional qualms of doubt that conviction has grown stronger, especially during the last two or three years. I feel now disposed to go farther and to assert, not only that the root of the matter is here but also that, to a very considerable extent, the hope of the world is also here. Somehow bound up with the fulfilment of that hope is the fruition of the still latent possibilities of English education. If that is so then the work of even the most specialised of technicians in educational research acquires a significance that may well prove historic.

ADDENDUM.

Since the above was written some time ago there have been at least two developments to add further emphasis to what has been said, and especially to demonstrate the need for much careful research before we accept all the White Paper proposals as being on the right lines, or, if we do so, believe that we know already how to carry the proposals into effect. These two are:

- (1) Professor Burt's weighty and timely article on the "Education of the Young Adolescent" in the November issue of this *Journal*, in which he brings to bear a searching psychological criticism upon the assumptions which appear to underlie recent practical proposals, e.g., those of the Norwood Committee.

- (2) The establishment, in association with the University of London Institute of Education, of an Educational Research Foundation which, it is hoped, will provide the nucleus for the full-scale national organisation that, as we now know, is so cruelly needed.

(1) The effect of reading Professor Burt's article is to increase one's doubts of the soundness of the White Paper plan of a definitive tripartite allocation of young adolescents for post-primary education. If, as seems contemplated, there are to be three rather sharply demarcated boxes labelled respectively grammar, technical and modern, and if each is to receive its intake at the age of 11+ and to retain the great bulk of its pupils throughout the course, then the principles upon which such allocation proceeds are of much more than educational importance. Sound formulation and wise application of them becomes a matter of profound significance for the whole future of the nation.

Professor Burt adduces cogent psychological reasons for the retention of some well worked-out form of objective test to be applied at the suitable stages to all alike. Not the special place examination as we have known it hitherto, but a diagnostic technique directed towards assessment of the factor of *general* ability upon which he rightly places so much stress. As I understand him he would not object to the use, at the same time, of tests directed towards the assessment of *special* abilities so far as they have been manifested at that early stage, but he would deprecate strongly any practice that placed the main reliance upon the results of these latter tests.

Accepting the force of Professor Burt's argument, I would make here just two comments. The first is that the need for a suitable form of pupil-record and of training teachers in the use of it still stands. I imagine there has already been a good deal of experiment in the work of standardising assessments made by different individuals, teachers, examiners, and others, of pupil performance. I know myself of various cases where the frequencies, norms, and typical performances to which Professor Burt refers have been applied with marked success.

It seems clear that while the kind of emphasis which appears in the White Paper and some other documents does need correction, we shall not be able to work the new order of things successfully without a considerable use of school records.

Hence the designing of the form of such records, the principles and precautions to be observed in their use and the demarcation of the limits within which they are to have validity, do indicate a range of immediately urgent problems upon which the resources of research should be directed.

The other point concerns the form of school organisation which would seem to follow from the position Professor Burt takes up. He does not himself indicate what it is, but it is clearly something very different from the scheme of things that is adumbrated in the White Paper. One is left with an impression that we shall have to re-examine in a new and wider context the validity of the cultural-vocational distinction *as applied all through* (and not in the 'technical' field alone). Some of us may feel, too, that the case for the multilateral school gains in strength as we penetrate deeper into the implications of secondary education for all, and ponder over the practical inferences that seem to follow from Professor Burt's statement of the governing psychological factors.

(2) Aided by some generous grants and guided by the active support of a representative Advisory Council, the newly-created Research Foundation is now reaching the stage where it can embark upon some immediately urgent enterprises. A secretary is about to be appointed and a permanent office set up. Opinion is virtually unanimous that the first task is to go into the question of working out adequate instruments of diagnosis, including the formulation and use of a suitable form of school record. For effective work to be done a very wide range of co-operation will be essential and many types of experience will have to be called upon. Details will be published shortly. In the present state of public interest and sense of need there is little doubt that the necessary degree of co-operation will be forthcoming.

Finally, I cannot refrain from adding that reflection upon the far-reaching importance of the considerations that Professor Burt puts forward deepens my sense of the vastly increased significance of educational research in the new setting into which the life of the nation is now passing.

ATTITUDES OF SECONDARY SCHOOL AUTHORITIES TOWARDS THE TRAINING COLLEGE COURSE, ENCOUNTERED BY INTENDING STUDENTS.

BY WILLIAM B. TUDHOPE.

I.—The training college as a source of supply of teachers. II.—The attitude of secondary school heads towards the training college course. III.—(i) The discouraging and non-committal attitudes encountered; (ii) Possible reasons for these attitudes. IV.—Correlation between head's estimate of suitability for teaching and later college assessment: (i) The results obtained; (ii) Possible reasons for the discrepancy. V.—The encouraging attitude encountered. VI.—Advice offered to training college students: (i) Alternative advice to go to a university; (ii) Advice from a careers specialist to enter a training college; (iii) General advice to enter a training college; (iv) Advice not to enter a training college. VII.—Conclusions

I.—THE TRAINING COLLEGE AS A SOURCE OF SUPPLY OF TEACHERS.

THE greatest single problem confronting educational reform is that of the recruitment of teachers in sufficient numbers to render some of the most pressing reforms practicable. Conservative estimates put the number of additional teachers required after the war at 50,000, though many experts believe that the real demand is almost double that figure. In any case, the magnitude of the problem is realised more clearly by a reference to pre-war statistics. In the year 1936-37 the total number of teachers in training in England and Wales was 15,766, including students undergoing four-, three-, two- and one-year courses in university training departments and in training colleges of various kinds. If we assume that students in training were spread out evenly over the various years of their course we conclude that the output of teachers in the year 1937 in England and Wales was 7,106. Post-war reform would accordingly demand at least seven times the number of teachers trained in that year, and probably considerably more. Further, of the 15,766 teachers in training in 1936-37, 56 per cent were attending two-year courses at training colleges, 29 per cent four-year courses in connection with a university, and just under 5 per cent one-year courses at a university training department. It is thus evident that in the pre-war years the training colleges were supplying more than half the total output of teachers; in fact, of the 7,106 teachers trained during the year 1936-37 62 per cent had attended a two-year course at a training college, all of them having enjoyed a secondary education of some kind and returned to teach for the most part in a public elementary school.

In the absence of any indications to the contrary, it may be assumed that in the post-war years the training colleges will continue to play an equally important part in the training of teachers, perhaps an even more important part if the course be extended by one year. It may also be assumed that the training college will continue to recruit the greater number of its students from the secondary schools, though candidates from other sources must receive increasing consideration if the gap between supply and demand is to be bridged. Therefore it is important that consideration should be given to the part played in pre-war years by the heads and staffs of secondary schools in the recruitment of suitable candidates for the training college, to the kind of advice given by competent authorities to potential candidates, and finally to the motives which prompt secondary school boys and girls to apply for admission to a training college and take up elementary school teaching. Thus a great deal of light would be thrown on the possibility of still wider recruitment for the training college with greater co-operation from the secondary school authorities, and also on the possibility of making the less academic branch of the teaching profession more attractive to students from the secondary schools. The evidence presented in this paper has been obtained from a survey conducted amongst four successive

generations in a large mixed training college, including 216 men and 427 women ; of the women, 183 were training in the infant and junior department and the remaining 244 in the junior and senior department. The survey was carried out largely by means of a questionnaire, the students giving their answers anonymously and adding to elaborate their answers any comments which they thought fit.

II.—THE ATTITUDE OF SECONDARY SCHOOL HEADS TOWARDS THE TRAINING COLLEGE COURSE.

(i) *The evidence obtained.*—Some evidence was first sought on the attitude of secondary school heads and staffs towards a training college course. The Memorandum on the Training of Teachers,¹ drawn up by the Joint Standing Committee of the Training College Association and the Council of Principals, contains this sentence: "The field of selection must necessarily remain too limited as long as the general public fail to realise the importance, high social value and dignity of the work in elementary schools, the qualities it demands and the improvement in school conditions which is being gradually brought about." It almost seems an impertinence to enquire to what extent the heads and staffs of secondary schools share this lack of understanding with the general public, and yet on the other hand heads have told me quite frankly that they would hesitate to advise any boy or girl of marked promise or ability to take up a training college course. Assistant masters on the staffs of secondary schools have listened to my criticisms of students whom they have sent to a training college and while substantially agreeing with them have assured me that "of course, we don't send you our best material." Finally, a thoughtful and intelligent student told me some years ago with much bitterness that "no practical advice is offered at the secondary school to the student who intends to go to a training college and the person concerned has to work out his own salvation, more attention being paid to those going to a university," presumably the 'best material' already mentioned.

The first item on the questionnaire took this form: "What was the *general* attitude of the head master or head mistress of your secondary school towards those wishing to enter a training college?" The student was asked to answer "encouraging," "discouraging," or "non-committal." The results are shown in Table 1.

TABLE 1.

TABLE SHOWING PERCENTAGE OF STUDENTS WHO REPORTED THE ATTITUDES OF THEIR SECONDARY SCHOOL HEADS TOWARDS TRAINING COLLEGE COURSES.

	<i>Men.</i>	<i>Women (Total).</i>	<i>Women (Junior-Senior).</i>	<i>Women (Infant-Junior).</i>
"Encouraging"	51%	71%	63%	80%
"Discouraging"	11%	5%	—	—
"Non-committal"	38%	24%	—	—

III.—(i) THE 'DISCOURAGING' AND 'NON-COMMITTAL' ATTITUDES ENCOUNTERED.

The small percentage who reported "discouraging" is not surprising, indeed the surprising feature is that it is so large, especially in the case of men students, of whom more than one-tenth encountered this attitude from the heads of their secondary schools. We are left to conjecture how many potential candidates have been deterred by this discouraging attitude, when they might well have entered a training college and made a success of elementary school teaching. Before answering the questionnaire each student was warned to report not on the attitude of the head to himself as an individual candidate but on the general attitude of the head towards all prospective training college candidates

¹ *The Training of Teachers.*—University of London Press, Ltd.

in that school. Thus it appears that in 11 per cent of the secondary schools attended by this group of men students the head discouraged entry to the training college not on the grounds of individual unsuitability but as part of his general policy. It is interesting to note that the number of women reporting this attitude is less than half that of the men who do so, and it may be concluded that there is not the same prejudice against the training college in girls' secondary schools as there is in boys', though the prejudice does still exist and must effect a certain 'creaming' of potential candidates. There does appear to be certain evidence that a discouraging head plays some part in limiting the number of candidates for the training college.

The numbers who report a non-committal attitude are equally significant. When one remembers the prestige that a suggestion from a head generally carries, particularly about a future career, where the favour of the head and the support of the head's recommendation can be of great importance, it is to be regretted that no more positive encouragement should be given to students who wish to take up a training college career and that they should decide to do so without direct support from one who has had so much to do with their education during the past six or seven years. This attitude must influence many aspiring candidates, and while it may not deter them, it may set them off with the feeling that they have not done the best thing and thus deprive them of confidence in the wisdom of their choice. In schools where such an attitude is encountered there must be from time to time suitable candidates who deserve every encouragement in their decision to enter a training college. It is interesting to note that again the percentage of women who report this attitude is smaller than that of men who do so.

(ii) POSSIBLE REASONS FOR THESE ATTITUDES.

The academic bent of the candidates.—In examining the possible reasons for the actively discouraging or passively non-committal attitude displayed by heads, who may thus narrow the field of selection of the training colleges either by discouraging suitable candidates or by failing to make known to possible candidates the opportunities available, the most obvious reason is perhaps the view that many sixth form boys and girls are suited to a more academic and cultured profession than the elementary school work to which a training college course commits them. In answer, it must be urged that there is a place for the man or woman with academic interests in the elementary school, interests which will help to determine not only their methods and approach but also their own attitude towards a particular subject. In the new type of post-primary school envisaged in the White Paper, where specialisation will not only be more possible but also more desirable, college-trained men and women with sincere academic interests will be increasingly required, unless indeed we assume that such schools will be staffed almost exclusively by graduate teachers. Accordingly, it must be realised that a boy or girl is not automatically rendered unsuitable for a training college course just because of academic interests. Rather is he the more fitted for some branches of the work, particularly if he possesses in addition an interest in children and ideals of social service, for which the elementary school offers so much scope.

It must be borne in mind that a good many university graduates eventually take up posts in elementary schools, so that the head's encouragement of a university career rather than a training college course does not finally bar the way to the elementary school, but the total percentage of graduate teachers in the public elementary schools is still a small one; for example, the figure was 5·4 per cent on 31st March, 1933, rising to 7 per cent on 31st March, 1937. As regards the fraction of graduates which each year obtains posts in public elementary schools, Table 2 has been compiled from various year books in education.

If we assume that no graduate teacher retired from the public elementary schools in 1936 and that the increase in graduate teachers in these schools during the year 1936-37 was met entirely from the total output of graduate teachers in 1936, we reach an approximate estimate that in the pre-war years one graduate in four found a post in the elementary

school. At the same time, it is almost certain that the majority of those who take posts in the elementary school after obtaining a degree accept them as a second-best alternative to a post in a secondary school.

TABLE 2.
STATISTICS OF GRADUATE TEACHERS IN THE YEAR 1936-37.

Number of graduate teachers in public elementary schools on 31st March, 1936.....	10,908
Number of graduate teachers in public elementary schools on 31st March, 1937.....	11,407
Increase in number of graduate teachers in public elementary schools, 1936-37.....	499
Total output of graduate teachers in 1936 ¹	2,007

The educational value of the training college course.—It may be urged by heads that they must consider the real interest of the boy or girl concerned and that by advising a training college course they are preventing the candidate from following up an academic interest which might have resulted in a breadth of individual culture, possibly as a result of a university education, which is denied in the shorter and more superficial course offered by the training college, culture which might have brought a deeper personal happiness and even rendered a greater contribution to the communal welfare. There is certainly some justification for this point of view. The very shortness of the college course is apt to produce a superficial culture, which may earn for the elementary school a reputation for lack of culture among those who have themselves enjoyed a university education. The two years' course is so short and there is so much to be done in the time that it is difficult for the student to follow out even a really vital interest; he may, on the other hand, finish his course with the comforting knowledge that he knows quite a lot about several subjects and in several spheres, without ever having learned the more important fact that there is a great deal he has not learned. Many college students, when asked "What do you know about this?" regard the question as being satisfactorily answered when they reply "I took it at college." It is easy to say that a student who has a real interest in a subject and its cultural implications will make an opportunity for following it up when he settles down in a post, but the life of an elementary school teacher, in school or out of school, is not remarkable for the amount of leisure time, or, at any rate, leisure time which finds the individual fresh and ready to take up some study. The increasing importance attached by the Board of Education and other bodies to the provision of holiday and 'refresher' courses is most desirable, but too often such courses are in the practical subjects and the main concern is with methods of teaching rather than with the cultural aspects of the subject. The Board of Education should set the lead in maintaining that elementary school teachers may be cultured men and women who can be interested in a subject for its own sake, and in providing facilities whereby such men and women may have the opportunity to pursue this interest and the time in which to do so. In this way much can be done to dismiss the prevalent idea that there is no place for the boy or girl with cultural interests in the elementary school.

The social status of the elementary school teacher.—Another possible reason which may influence the attitude of the heads is closely concerned with the social status of the elementary teacher. The class distinction which first sprang into being between the public schools and the elementary schools as the schools for the rich and the schools for the poor, has to some extent been perpetuated between the newer secondary schools and the elementary schools, so much as that a parent who sends his child to an elementary school rather than to a preparatory school or department, in neither of which probably is the teaching so efficient as in the elementary school, incurs both for himself and for his child a social stigma. The elementary teacher shares the social cachet which is attached

¹ These figures do not include untrained teachers from Oxford and Cambridge and elsewhere.

to the elementary school, regardless of his own abilities, upbringing or training. How could a head be expected to advise a boy or girl from a family of reasonably good social standing to take up elementary school work? How could a head deny to a boy or girl of lower social standing the opportunity of improving their social status by encouraging them to take up elementary teaching? And so, if a boy or girl seems fitted for teaching, it must, if at all possible, be secondary school work after a university education. We must admit that when such is the common attitude towards the elementary teacher—an attitude about which most training college students feel most strongly and at times bitterly—the head has some justification in doing what he considers best for his pupil. There is, however, a very real danger that this social distinction, reinforced by the intellectual distinction which also helps to separate the two branches of the profession, may continue to affect the relationship between the more academic type of secondary school and the reformed post-primary modern school.

Financial considerations.—Another consideration which can hardly fail to influence a head is the fact that a boy or girl of ability can attain greater financial success by avoiding the elementary school and taking up some other career, where the rewards are greater, though the work may be of less vital importance. I have always found it difficult to imagine a more vitally important job than that of helping to train not the minority in the secondary school, but the very great majority of the future citizens whose education is practically completed within the elementary school. A comparison of the respective Burnham scales will indicate the relative value of the service rendered by the elementary and secondary teacher, in official if not in public opinion. There are doubtless many men and women who would be successful in elementary school work and who would find deep satisfaction in doing it, but who are nevertheless not sufficiently altruistic to remain unaffected by the question of financial remuneration, men and women who may believe in a reward laid up in heaven but who would prefer to see it in a more substantial form so that they could live as intelligent and cultured members of the community to which they are contributing such an important service. One of the most effective ways of bringing not only the staffs of secondary schools but the general public as well to realise the importance of elementary teaching is by providing emoluments proportionate to its importance.

Insufficient appreciation of the qualities required.—A further reason deserves attention. With all due respect to their judgment, it must be suggested that the attitude of some heads is affected by the fact that they have little real appreciation of the importance of the work done in the elementary school and of the qualities of intellect and personality required for its successful achievement. It is probably many years since they themselves attended such a school, if indeed they ever did so, and any elementary school practice which they ever did was probably regarded as a disagreeable necessity at the time and has long been forgotten as something quite outside their own sphere of interest. In any case, since these more or less distant days, the great changes which have taken place in elementary education, both in the sphere of aims and methods, make any such knowledge out of date. At present any direct contact between the elementary and the secondary school is so rare that heads and staffs of the latter have little real understanding of the methods employed by the former, though they may see in some of their own pupils the more artificial results of education for a scholarship. Further, the social and economic gulf between the two branches of the profession has the effect that the men and women in one branch know little or nothing of those in the other, an ignorance which helps to deepen their mutual suspicion. How much more effective would our educational system be if there did exist a closer understanding and a greater opportunity for direct contact between the elementary and the secondary school? In the treatment of a difficult child, for example, one of the first requirements is a knowledge of his past history; and yet in how many cases is there any opportunity in the secondary school to obtain previous elementary school history when even such indirect contact as could be provided by the passing on of a school record card is almost unknown. It is perhaps difficult at any time to appreciate the work done by a man or woman who is generally recognised as a social

and economic inferior, especially when the work done is an 'elementary' branch of one's own, and it is likely that some heads fail to appreciate the importance of elementary school work or to understand fully the vital qualifications in intelligence, character and personality, which alone will equip an individual to undertake the work with some prospect of success.

IV.—CORRELATION BETWEEN HEAD'S ESTIMATE OF SUITABILITY FOR TEACHING AND LATER COLLEGE ASSESSMENT.

(i) *The results obtained.*

Some evidence for this lack of appreciation of elementary school work and of the qualities required for its successful discharge was obtained in an interesting way. When a boy or girl has applied for entrance to a training college the head of the secondary school is requested to supply certain specific information in order to guide the selection of the training college authorities, supplied on a form which is never seen by the candidate himself. One question takes the form: "What is your general estimate of the candidate's personality and fitness for the office of teacher?" the head being asked to assign a literal mark according to a system set out in a footnote.¹ A similar grade-letter is assigned to each student at the end of his college career by the principal in collaboration with other members of staff to indicate his general fitness for the teaching profession. It was accordingly possible to find the correlation between the head's estimate of fitness and the later college assessment. The results are contained in Table 3.

TABLE 3.
SHOWING CORRELATION BETWEEN HEAD'S ESTIMATE OF SUITABILITY AND LATER COLLEGE ASSESSMENT.

Correlation between two assessments of suitability in a group of sixty-seven men students	{	.14 (P.E. = .08)
Correlation between two assessments of suitability in a group of forty-eight women students training for infant and junior work	{	.11 (P.E. = .09)
Correlation between two assessments of suitability in a group of sixty-seven women students training for junior and senior work	{	.20 (P.E. = .07)

Since in none of these instances is the correlation coefficient itself three times as large as the probable error, the correlation coefficient is not significant. It must therefore be concluded that the assessment made by the head of the secondary school gives little or no indication of the candidate's ultimate suitability for the teaching profession and is accordingly of little value to the training college authorities in its present form.

(ii) *Possible reasons for the discrepancy in the assessments.*

Validity of the training college assessment.—Several reasons for this lack of correspondence deserve consideration. First, doubts may be expressed about the validity of the college assessment. We must, however, remember that the assessment is reached by taking an average of different marks awarded by those who are very familiar with the work of the student in each particular sphere; for example, the college final teaching

¹ Copy of footnote.—"Please assign a grade-letter as follows: (a) The candidate is obviously and unquestionably fitted for the profession and likely to develop into a really valuable teacher; (b) The candidate is likely to develop into a capable teacher; (c) The candidate is likely to develop into an average teacher doing undistinguished work; (d) The candidate is not specially fitted for the profession, though you could not actually discourage him/her; (e) The candidate is not really suitable for the profession."

mark awarded by the college authorities in consultation with His Majesty's inspectors,¹ academic marks awarded by specialist tutors, an estimate of character and personality provided by the resident tutors, and a survey of activities in the social and sporting life of the college. Further, these marks are assessed by men and women who have a real understanding of the demands which elementary teaching makes on the individual teacher and an appreciation of the qualities which are most likely to make for success in that branch of the profession. It is difficult to see how a more reliable assessment of general suitability could be arrived at. On the other hand, it may be urged that the head's assessment was quite accurate when it was given but that it could not possibly take account of the development which two years at a training college would certainly bring about. It is, however, surely contrary to all the principles of vocational guidance to urge that by the age of seventeen or eighteen it is impossible for the head to gauge with some exactness the potentialities of the individual for one profession or another; if that were true vocational guidance would obviously be impossible.

A further pointer against this argument is provided by an interesting piece of evidence. It was found that the vice-principal of the college had interviewed all the sixty-seven women students, whose marks had been used to find one of the correlations in Table 3, when they were candidates for admission, and had after a ten minutes' interview jotted down a preliminary impression of general suitability, which was later to be used in conjunction with much other evidence in order to decide whether the candidate should be accepted. The correlation between the vice-principal's assessment and later college assessment was $\cdot 25$, with a probable error of $\cdot 08$, a correlation greater than that between the head's assessment and later college assessment.² If the result of a short interview could provide such a correlation, the much more intimate knowledge of the head should have been able to provide a much more reliable assessment of general suitability.

Insufficient knowledge of the candidate.—It may be argued that the heads are not sufficiently well acquainted with the candidates as to be able to give a reliable assessment, an explanation which is probably more applicable to a very large school with a large sixth form. In such a case it should be the duty of the careers specialist to supply such an assessment as the result of enquiries made in connection with every boy and girl about to leave school, or if the staff does not include such a specialist, those members of the staff most closely concerned with the candidate's school record would be competent to deal with the matter. Unfortunately heads who act as careers advisers often fail to consult those members of the staff who probably know more about the candidate than does the head himself. Another possible reason is that the assessment may be based on suitability for the secondary branch of the teaching profession, in the absence of a sufficiently clear understanding of the intellectual and personal qualities required in the prospective elementary teacher. To obviate this difficulty the training colleges would do well to produce a standardised rating scale on more precise lines, so that each head would understand quite clearly what he had to assess.

"Boosting" the candidate.—It may even be suggested that a few heads, failing to realise the social value of elementary school work, are tempted to rate a candidate somewhat highly in order to improve his chances of being accepted by the training college, particularly if he does not seem markedly suited for some other profession. Certainly the discouraging or non-committal attitude so often reported by students is not evident in the heads' assessments, erring as many of them do on the generous side. Indeed, on some occasions when in despair over some apparently quite unsuitable intending teacher I have referred to the head's original assessment, I have been astounded by the high opinion held as to the student's suitability for the teaching profession. How many heads are quite guiltless of trying to do their best for their pupils regardless of the real interests

¹ The value of this particular mark is dealt with in my article, "A Study of the Training College Final Teaching Mark as a Criterion of Future Success in the Teaching Profession," in Vol. XII, Part I, and Vol. XIII, Part II, of this *Journal*.

² It must be pointed out that the estimates of different heads were massed, which would, of course, lower the correlation in view of the different standards of individual heads.

of the training colleges? We must stress all the more the need for a standardised rating scale, devised by experts who understand the requirements of intellect and personality necessary in the elementary school, in order that heads may co-operate with sincerity and understanding in aiding the colleges to make a wise selection from potential candidates.

V.—THE ENCOURAGING ATTITUDE ENCOUNTERED.

It is more heartening to turn to the other side of the picture and to consider the students who report an encouraging attitude from their heads. First, the difference between the figures for men and women students would seem to bear out the argument that the training college course is more widely favoured for girls than for boys, amongst the heads of secondary schools as well as amongst the general public. The reason most frequently advanced for this point of view is that the girl will probably get married and therefore it is undesirable that she should take up a long period of training which she may never use. Such is our material conception of the value of education. Secondly, it is interesting to observe the difference in the figures for women training for junior and senior school work and those training for infant and junior work. Apparently, to the heads as well as to the general public, it seems more natural for girls to work with younger children and so they receive more encouragement to take up this work as a profession, especially when they are endowed with the more feminine qualities which are not so obviously required in teaching older children and which are not so likely to be undermined as in the more formal and authoritarian atmosphere of the older classroom. It is significant that only 3 per cent of the women training for infant and junior work report a positively discouraging attitude.

It is presumably the more enlightened heads who show an encouraging attitude towards the wish of boys and girls to enter a training college and with them to a large extent lies the responsibility of ensuring that the vital work which is being done in the elementary school is not rendered less effective by the shortage of suitable teachers to undertake it. This, in turn, requires that heads of secondary schools possess a real understanding not only of the importance of the work done but also of the qualities necessary for the intending teacher in these schools.

VI.—ADVICE OFFERED TO TRAINING COLLEGE STUDENTS.

(i) *Alternative advice to go to a university.*

The training college students who supplied the evidence presented in this paper had received advice about their future career from many sources before finally deciding what to do. An attempt was next made to classify such advice. In answer to the question, "Were you ever advised by a head or by any other competent school authority to go to a university?" 56 per cent of the men reported that they had been so advised, as did 52 per cent of the women, including 62 per cent of the women training for junior and senior work as compared with 42 per cent of those training for infant and junior work.

In other words, if the advice of the competent secondary school authorities had been followed in every case, more than half of the college students involved in this enquiry would have gone to a university and presumably, if they had after that taken up teaching, the majority would have sought posts in secondary schools. Since the questionnaire was anonymous, it is obviously impossible to follow up the careers of the students so advised and thus to decide whether they might not have been more suited to secondary school work, but we feel sure that the training college would have been deprived of much promising material had they followed the advice. We believe that there are many boys and girls who accept this advice to enter a university who would nevertheless find elementary teaching more suited to their tastes and abilities, despite the inferior economic and social position.

It might be well to distinguish between the serious advice to go to a university and the advice to make a tentative application given to doubtful candidates who may later gain an unexpectedly good higher school certificate. But surely the question at issue

is whether the individual is more suited to a university course and probably secondary teaching if he teaches at all or a training college course and certainly elementary teaching. The answer to this question ought not to depend on a 'long shot' in the higher school certificate examination, since academic distinction is not the only factor to be considered nor does it automatically render a candidate unsuitable for the college course. I have already considered the fact that some graduates eventually accept posts in elementary schools¹ and that students who accept advice to go to a university are not necessarily lost to elementary teaching. However, it must not be tacitly assumed that a university course is necessarily the best type of training for an elementary teacher.

(ii) *Advice from a careers specialist to enter a training college.*

In answer to the question, "Were you ever advised by a careers specialist to enter a training college?" 13 per cent of the men students and 4 per cent of the women students reported such advice. Doubtless many of the students were not given such advice simply because there was no such specialist on the staff of their secondary school; in the absence of detailed information on this point, no conclusions can be drawn about the attitude of careers specialists in secondary schools towards the training college course. It can only be regretted that such a small proportion of the whole group of students received this advice from an informed and presumably unbiased source, when so many more were very well suited to such a career. How many equally suitable candidates are diverted to some less important job because of the lack of such specialist guidance?

(iii) *General advice to enter a training college.*

Practically every student who enters a training college has received advice to do so from some source or other, many of them reporting more than one source. An analysis of the sources of such advice is contained in Table 4.

TABLE 4.
PERCENTAGE OF STUDENTS WHO RECEIVED ADVICE FROM VARIOUS SOURCES TO
ENTER A TRAINING COLLEGE.

	<i>Men.</i>	<i>Women.</i>
Advice from head	51%	61%
Advice from careers specialist	13%	4%
Advice from parents	27%	42%
Advice from friends	28%	32%
Advice from other sources	6%	4%

Advice to enter a training college from secondary school authorities.—Of the 643 students who took part in this enquiry altogether 399 had been advised by the head of their secondary school or by some other competent school authority, e.g., a careers specialist, to enter a training college. The answers to the questionnaire were analysed from a different angle in order to find out how many of these 399 students had been similarly advised to go to, or at least to apply to, a university. The results showed that 51 per cent of this group had also had advice from the same sources to go to or to apply to a university, including 59 per cent of the women training for junior and senior work and 35 per cent of those training for infant and junior work. These figures cast a different light on the advice to enter a training college, showing as they do that it was given only when previous advice to go to a university could not for some reason or other be adopted. As one student put

¹ Cf. Table 2 and accompanying paragraph on pages 9, 10.

it, "The advice to enter a training college was later given as an alternative to the university when I was unable to go to a university for financial reasons connected with my father's death." It seems most unfortunate and surely not inevitable that such a large number of students should enter a training college with the impression that it is a second-best alternative forced on them because of circumstances over which they have no control. It does little to enhance the importance and prestige of the elementary school career, when it is generally assumed that those who are denied the opportunity of training for secondary school teaching are perfectly well suited for the elementary school or even that those whose training has been largely directed towards secondary teaching, as in the case of university graduates, should accept a post in an elementary school only when there is nothing better going in the secondary school. We cannot even assume that the students in question would have become teachers if they had gone to a university; in fact, they may have entered a training college merely because it offered some kind of training in place of that which was for some reason denied them.

Surely also we must believe that each branch of the teaching profession requires its own particular kind of qualifications in those who would take it up as a career, and that only the very few outstanding teachers will have all these qualifications so that they are fitted for all branches. It is for this reason surprising that almost one-third of the women students training for infant and junior school work were regarded as suitable both for university work and for infant and junior school teaching; one would have imagined that few would be fortunate enough to possess all the very different qualities required for these two very different careers.

Advice from parents.—A consideration of the fairly large percentages of students who in entering a training college are following the advice of their parents leads to the obvious enquiry as to how many parents know what they are talking about from direct experience of the teaching profession. The results are contained in Table 5.

TABLE 5.
PERCENTAGE OF STUDENTS WHOSE PARENTS WERE TEACHERS.

	<i>Men.</i>	<i>Women.</i>
Father is or was a teacher	5%	2%
Mother is or was a teacher	5%	10%
Both are or were teachers	3%	4%
Neither is nor was a teacher	87%	84%

We must, therefore, conclude that very few of the parents who advised their children to enter a training college and take up teaching had been or were themselves teachers. It seems likely that their advice was based neither on any real understanding of the conditions or demands of the elementary school nor on any unbiased understanding of their children's suitability to meet these demands. In any case, the parent is hardly the person to appreciate without prejudice the suitability of his child for any particular profession, and it may be assumed that the reason for the advice was often some consideration quite irrelevant to the main issue, which ought to be the suitability of the individual for his job.

Advice from other sources.—For obvious reasons it was too complex a task to analyse the value of the advice proffered by friends and to find out whether it was based on some real understanding of the situation or on some biased consideration such as was likely to appeal also to the parent. It was noted, however, that amongst the friends reported as giving advice to enter a training college a brother or sister was sometimes included. A consideration of the question how many students had been influenced by brothers or

sisters in the profession showed that 17 per cent of the men and 14 per cent of the women had a brother or sister engaged in teaching. On the whole, then, it appears that the possibility of direct or indirect suggestion from parents, brothers or sisters in the teaching profession had been very slight, almost surprisingly so. Two cases reported could not but attract attention, one woman student reporting that her mother and three brothers and sisters had been or were teaching, and another that both her parents and two brothers and sisters had been or were teaching. In any analysis of the motives which prompt boys and girls to enter a training college the wish of a parent¹ and the influence of a friend does certainly appear, and it is to be regretted that the barrage of advice from such sources, who are, after all, not the authorities best qualified to give it, should so exceed that given by more competent authorities.

(iv) *Advice not to enter a training college.*

In answer to the question, "Were you ever advised by some competent person not to go to a training college?" 16 per cent of the men and 14 per cent of the women replied in the affirmative. The main reason for this advice was that the individual was fitted for something better, a reason advanced by practically all the men concerned and by 11 per cent out of 14 per cent of the women; 2 per cent of the women gave as the reason the suggestion that they were not fitted for teaching. Other reasons advanced by individual students are not without interest. One student said that the training colleges, perhaps meaning elementary teaching, were crowded; another that elementary teaching was not a 'satisfactory' profession, though he did not explain in what respect; another that the training college was 'common'; another that the long training was not desirable for girls; another that her head mistress believed in a university education; another that the job was not worth the time and trouble. All these reasons, of course, were given to the students to support the advice and do not necessarily represent the students' own opinions.

We must remember that in addition to students in college who resisted such advice not to enter a training college, there may be as many and more who accepted it, some of whom would probably have proved well suited to the work. It is almost certainly true that the advice not to enter a training college is in many cases just as ill-informed and as biased as the advice to enter a training college, with the result that the field of selection of candidates is prescribed by many people who set themselves up as authorities while in reality knowing little or nothing about the truth of the matter. It is, of course, equally true that in the case of many other occupations and professions advice is constantly being given to young people to take them up or not to take them up by people who are by no means qualified to judge either of the candidate's suitability or of the merits of the job. In particular, the training college has to deprecate not only that a certain proportion of its students are not as suited for elementary teaching as they might be but also that some potentially valuable material is for no good or sufficient reason diverted elsewhere.

VII.—CONCLUSIONS.

As a result of this enquiry five important facts emerge:

- (a) Of all the teachers trained in a typical pre-war year, 1936-37, 62 per cent attended a two-year training college;
- (b) In a survey of 643 men and women students in a mixed training college, 51 per cent of the men reported a generally encouraging attitude towards the college course from the heads of their secondary schools, 11 per cent a discouraging attitude, 38 per cent a non-committal attitude; while of the women, 71 per cent reported an encouraging attitude, 5 per cent discouraging, and 24 per cent non-committal;

¹ For the influence of the parent's wish on the choice of a career cf. article on "Reasons for the Choice of the Teaching Profession," by C. W. Valentine, in Vol. IV, Part III, of this *Journal*, and also article by F. M. Austin on the "Motive for Adolescents' Choice of Teaching" in Vol. I, No. 1, of this *Journal*.

- (c) Of this group, 56 per cent of the men had been given alternative advice by some competent school authority to go to a university, as had also 52 per cent of the women ;
- (d) 13 per cent of the men and 4 per cent of the women had been advised by a careers specialist to enter a training college ;
- (e) 16 per cent of the men and 14 per cent of the women had been advised by some competent authority not to enter a training college.

It may be concluded that in the years before the war there existed a singular absence of regard among secondary school heads and staffs and others for the value of the training college course and for the work to be done by anyone so trained, and that a typical group of students who took up such a course received surprisingly little constructive advice as to their future career.

It would further seem that though more than half the members of the teaching profession are products of the training college, many secondary school authorities not only fail to direct suitable material to the training college or to give the possibilities of such a career favourable publicity, but even seek to divert potential candidates either to another career or to the secondary branch of the same career.

If in post-war years the training colleges are to continue to play any important part in the training of teachers, there is urgent need of some campaign to educate the general public to a realisation of the social value and dignity of the work undertaken by college-trained teachers, in order that the colleges may not be starved of the best material and that the children who are to be taught by such teachers should enjoy nothing but the best type of influence and example. As long as any student can report that the general attitude of his secondary school head towards a training college course was discouraging, as long as students are advised by competent school authorities to try for a university and only when that fails to enter a training college, as long as a student can be advised not to enter a training college because it leads to an 'unsatisfactory' or 'common' profession, the work of the training colleges and the elementary schools is rendered the less effective.

THE DECAY OF EDUCATIONAL ATTAINMENTS AMONG ADOLESCENTS AFTER LEAVING SCHOOL:

A RESEARCH BASED ON THE TESTING OF ADOLESCENTS IN TWO ARMY
CENTRES.¹

By W. D. WALL.

I.—Introduction. II.—Description of the group: numbers, sex, social and economic background, intellectual level as shown by intelligence test. III.—Basic educational standing: (i) Arithmetic: average E.A. of group, analysis of reasons for failure, effect on more complex processes; (ii) Spelling test; (iii) Comprehension test. IV.—Questionnaire on reading interests: similarities with and significant differences from adult group in (a) Newspaper reading; (b) Periodicals; and (c) Books: summary of reading interests. V.—Temperament: observations on the main interests and pre-occupations of the group: vocational, educational, degree of maturity, sex, social and æsthetic emotions. VI.—Programmes of instruction. VII.—Summary and conclusions.

I.—INTRODUCTION.

THE enquiry reported in this paper was undertaken as a necessary preliminary to the vocational and educational training of a group of 135 civilian juveniles employed in two large Ordnance Centres in the Midlands. A previous purely vocational course of training with a proportion of the group had shown that many suffered from educational handicaps and few had any knowledge of or interest in current affairs.² The authorities at both depots considered that further training was desirable. It seemed that a closer investigation of the total group might well throw an unexpected light upon the practical problems of extended education and show how far the grounding given in the elementary school persists throughout the two or three years immediately after leaving to form a basis for intellectual and cultural development later. Some fading, especially in subjects which are of little immediate practical bearing, was to be expected; the investigator was not prepared to find it so extensive and pervasive as it proved to be, nor so fraught with implied criticism of conventional plans for the curricula of the proposed new day continuation courses for adolescents absorbed into industry.

II.—DESCRIPTION OF THE GROUP.

The total group consisted of eighty-eight girls and forty-seven boys, with an average age of 15.93 years.³ Among the boys, twenty-five at Depot No. 1, and six at Depot No. 2, are employed in R.E.M.E. workshops. All the rest, boys and girls (eighty-five at Depot No. 1 and nineteen at Depot No. 2) are engaged in all kinds of jobs, ranging from minor routine clerical work or storehouse duties to operating Lamson tubes or acting as messengers.

¹ A report of this research was read before the Midland Branch of the British Psychological Society at Birmingham, January 8th, 1944.

² I am indebted to the instructor concerned for these details. The original course was attended by fifty-four (forty-six boys and eight girls) out of the eighty who were available to attend. Even among the fifty-four the attendance was erratic and continuity of work very difficult to maintain. He considers that while in a few cases departmental selfishness was partly to blame, most of the bad attendance was due to the apathy of the adolescents themselves.

³ $\sigma = 12.9$ months (1.08 years). Two boys born 29th November, 1922, and 30th July, 1923, were present at the original testing, and have been included in the calculation of the results; otherwise the range is 14 years 1 month—17 years 10 months.

Included in the preliminary examination was a test of intelligence,¹ the results of which show that the average I.Q. of the group is ninety-two, equivalent to a mental age of 13.8 years. The distribution of the scores suggests that the bulk of the group fall between an I.Q. of seventy-nine and one of 105 (i.e., between a lower extreme on the tenth percentile and an upper extreme between the sixtieth and seventieth percentile of a normal sample of the adult population). Burr² points out that an I.Q. of eighty-five or less is almost inevitably accompanied by educational backwardness. In this group we shall expect to find forty-eight³ juveniles, or 35 per cent, displaying more or less of educational backwardness.

To this lower average score and decreased variability several factors have contributed. First comes the influence of the scholarship examination at the age of eleven, creaming-off the brighter children from the elementary schools. Not one of our group had attended either a junior technical, central or secondary school, though one girl claimed that she had relinquished an L.C.C. scholarship to be evacuated. The second factor is socio-economic. The area in which Depot No. 1 is situated is largely agricultural, but there are small townships which have grown up around coal and iron mines, and which were depressed areas before the war. Some migration of the abler families may be assumed to have taken place. From such a background come the children forming the bulk of the group with, however, an admixture of those evacuated from London and the S.E. when their parents came to work in the depot. The smaller sub-group from Depot No. 2 comes entirely from an agricultural area, although, since the depot is a long-established one, many of them are the sons and daughters of the Civil Servants working there. The occupations of the parents of these young people include the semi-skilled trades, mining, small shop-keeping, lower clerical levels and unskilled labour. Few come from the ranks of skilled or technical workers and none are the sons or daughters of the professional classes.⁴

¹The test used was largely verbal and consisted of two sets of eight sub-tests taken from already standardised material and comprising synonyms, classification, analogies, mixed sentences, proverbs, mixed number problems, mixed reasoning problems and following directions, and a test similar to that given by Burr (*Mental and Scholastic Tests*, p. 231, Test 25, No. 14), and used in the Otis Advanced Examination, Test 6. The time allowance for the test is twenty-five minutes preceded by twenty minutes devoted to explanation, working of examples, and adjustment to the conditions of testing. It is not a highly refined test but possesses the advantage that the answers can be written on small duplicated sheets and it was used because circumstances prevented the use of one of the recognised group tests. Its reliability coefficient is .88.

In calculating the intelligence quotients and mental ages quoted in the text, the following is the method used. The test scores of over 5,000 Army men and A.T.S. forming a normal sample of the adult population of this country with the exception of the very dull and defective, were grouped into a frequency distribution. The average score of this adult group on the test is 27.7 points, with a σ of 11.3. In accordance with a suggestion of Professor Burr (this *Journal*, Vol. XIII, Part 2, p. 85, and private letter) I have assumed the σ of the I.Q. in the normal adult population to be sixteen points and the average I.Q. to be 100. I have also accepted Burr's suggestion that an M.A. of fifteen in an adult is roughly equivalent to an I.Q. of 100 (loc. cit., p. 84), and not that of sixteen as explicitly stated in the earlier *Mental and Scholastic Tests*, p. 244, Note. For this purpose, since the average chronological age of the juvenile group is nearly sixteen years, I have assumed that they will have reached the limit of development in intelligence and are therefore, in this respect, equivalent to a similar adult group. It is thus possible to superimpose on the distribution of scores in the adult sample a curve of distribution of the I.Q. with an average of 100 and a σ of sixteen points. In this way scores on the test may be calculated in terms of I.Q. and from them, in turn, mental ages deduced. If the conventional figure of fourteen be accepted as the average M.A. of a normal adult sample (and not fifteen as here) then the average M.A. of this juvenile group would be 12.88 mental years.

In terms of scores on the test used the performance of the juvenile group was as follows: *Average*, 21.8 points; σ , 8.9 points. Both these differences from the figures for the adult sample, quoted above in this footnote, are statistically significant, the first being more than seven and the second more than four times the S.E. Particularly interesting is the diminished variability in the adolescents, among whom, in view of the age range, one might have expected an increased σ . The obtained σ is only .79 of that of the adult sample. The reasons for this are discussed in the text.

² *Backward Child*, p. 84.

³ This represents the actual number falling at or below a score of seventeen on the test used, which is -94 σ below the mean of a normal sample.

⁴ It is not without significance that the middle 68 per cent ($\pm 1\sigma$) of this juvenile group have I.Q.'s corresponding to the averages for children of parents in Occupational Categories IV (Skilled) to VII (Casual), given by Burr in his article "Ability and Income" (this *Journal*, Vol. XIII, Part II, p. 84) and that the average I.Q. of the group (92) coincides with that of the children of unskilled workers.

Though undoubtedly important, all these influences do not seem adequate fully to account for the narrowed variability of the group without postulating the operation of an immediate cause of selection. This seems to be that the more intelligent and ambitious products of the local elementary schools are not finding their way to the depots but are seeking better paid employment elsewhere.

When, however, all this is said, it remains true that the group which is the subject of study here, although slightly below the general average intelligence of the population of the country, may be considered representative of the lower two-thirds (excluding the very dull and defective) of a normal adolescent sample. It is children such as these who, all over the country, will for the first time be brought compulsorily under continued educational influence up to the age of eighteen after the war.

III.—BASIC EDUCATIONAL STANDING.

In addition to the test of intelligence, the preliminary examination consisted of:

- (i) *Ballard's Tests of the Four Fundamental Arithmetic Processes*.¹ These were distributed in duplicated sheets and a rest pause of 2-3 minutes allowed between each test.
- (ii) *Spelling Test*. This consisted of thirty words taken from Burt's *Graded Vocabulary Test*,² five from each of years ten, eleven, twelve, and thirteen, and ten from year fourteen.
- (iii) *Comprehension Test*. This was a simplified form of similar tests³ in use in S.C. examinations, and was composed of less than 300 words taken from the introductory page of a handbook of instructions for the use of a telephone switchboard and was chosen as an elementary example of the kind of prose which is of everyday occurrence in the work of the depots.

In all cases considerable time was spent in outlining the objects of the testing and in creating a friendly, co-operative atmosphere. There was at first some nervousness and excitability, some talk of "being back at school again," some youthful skylarking and even a little antagonism, which expressed itself in late arrival and open grumbling; but each group very quickly entered into the competitive atmosphere, and I am convinced that there were few who did not do themselves justice.

(i) *Arithmetic*.—In a group of the intellectual standing of the present one, no high degree of skill in the fundamental mechanical processes of arithmetic is to be expected.⁴ Tables 1 (A) and (B), which are based on the norms given by Ballard⁴ (significantly enough derived from results obtained from school children during and immediately after the last great war, when education was almost as deeply disturbed as at present), show some of the effects of too brief an exposure and too little fixing referred to in last July's White Paper on Education.

TABLE 1 (A).
AVERAGE AND MEDIAN SCORES AND EDUCATIONAL AGES IN THE FUNDAMENTAL
ARITHMETIC PROCESSES IN TERMS OF OPERATIONS A MINUTE CORRECT.
• (135 Juveniles.)

Test.	Average.	Average E.A.	Median.	Median E.A.	Range.	S.D.
Addition.....	30.1	14	27.2	13+	0-68	13.2
Subtraction	10.2	12	9.1	12-	0-29	5.6
Multiplication	10.5	11+	9.3	11-	0-27	5.5
Division	6.5	11+	5.9	11-	0-25	4.3

¹ *Mental Tests*, 1925, pp. 161-165. ² *Mental and Scholastic Tests*, p. 354.

³ See, for example, the present writer's *Exercises in Comprehension in English*, 1940.

⁴ "Arithmetic is usually the subject in which the dull and backward individual appears most dull and backward," writes Professor Burr in a private letter. ⁴ *Mental Tests*, 1925, pp. 165-166.

TABLE 1 (b).

AVERAGE AND MEDIAN SCORES AND EDUCATIONAL AGES IN THE FUNDAMENTAL ARITHMETIC PROCESSES IN TERMS OF SUMS CORRECT.
(135 Juveniles.)

Test.	Average.	Average E.A.	Median.	Median E.A.	Range.	S.D.
Addition	6.9	13-	6.25	12+	0-27	4.1
Subtraction	5.1	12-	4.4	11	0-27	3.6
Multiplication	3.6	10+	2.6	10-	0-11	2.6
Division	2.3	10+	2.1	10-	0-13	2.4

Note 1.—The E.A.'s given are calculated according to the norms given in BALLARD's *Mental Tests*, pp. 165-166. In those cases where there is a difference between the median or average scores and those given by BALLARD, the nearest M.A. has been taken and the fact that there is a difference indicated by a + or - sign where it exceeds .2.

Note 2.—In the cases of subtraction, multiplication and division operations per minute, the limit -1σ falls at E.A. of 9+; in the case of addition -1σ falls at an E.A. of 10+.

In the case of sums, -1σ falls below an E.A. of 9 in every case.

TABLE 1 (c).

PERCENTAGES OF THE TOTAL JUVENILE GROUP (135) FAILING TO SCORE IN OPERATIONS AND SUMS CORRECT.

Test.	Operations.	Sums.
Addition	1.5	4.4
Subtraction	2.9	9.6
Multiplication	2.2	11.9
Division	5.2	16.3

Each paper was scored for (a) average number of operations per minute correct; and (b) total sums right. From this study several things emerge:

- The average Educational Age for Addition, scored in operations, is the only one approaching the average Mental Age of the group as indicated by the Intelligence Test. In the other fundamental processes the degree of backwardness ranges from one educational year in the case of Addition (sums) to over three educational years in the cases of Multiplication and Division (sums).
- If we average the average E.A.'s for Operations per minute correct and Sums correct we arrive at the following Arithmetic Ages for these fundamental processes: Operations a minute: 12+ years; Sums right: 11+ years. Thus there is a backwardness pervading these fundamental processes of between 1.8 and nearly three educational years according to which of the two processes we accept as a criterion. In terms of the average M.A. of the group which may be assumed to set an upper limit or in terms of the chronological age of leaving school this is equivalent to an educational ratio falling between eighty and eighty-seven. That is, in these fundamentals of education, the expected 35 per cent of educationally backward is swollen to at least 50 per cent.¹
- Discrepancies of at least a year between the average E.A.'s achieved in terms of Operations and Sums admit of two possible explanations. Burt has pointed out that at the age of puberty there is an increase in errors made in tests of this type.²

¹ See p. 20.

² *Mental and Scholastic Tests*, p. 302.

Against this being the reason, it might be urged that since the average age of the group is nearly sixteen, any pubertal instability which might remain should not have so noticeable an effect. The explanation, which views this discrepancy as evidence of the rusting of unused mental tools in the two years or more following school leaving, seems more likely.¹

- (d) A sidelight upon the previous points is thrown by Table 1 (c), which shows the percentages of the group who fail to score in terms of operations or sums.²

These are figures which speak for themselves. In terms of the standard deviations of the scores, 16 per cent of this group has an ability in addition below that of an average child of ten, and for the other three processes below that of a child of nine.

As a guide to framing a syllabus a rough analysis of the worst cases (those scoring three or less in Addition, and two or less in Subtraction, Multiplication and Division) was carried out under the classifications:

- (i) Failures in attention leading to obvious slips.
- (ii) Failure to carry.
- (iii) Ignorance of the method.
- (iv) Slowness with moderate accuracy and
- (v) In the case of Multiplication and Division, ignorance of tables beyond the five times.³

The results of this analysis are set out in Table 2, the figures in parentheses showing the percentage of the total group of 135 falling in each category.

TABLE 2.

ANALYSIS OF REASONS FOR LOW SCORES IN THE ARITHMETIC TESTS SHOWING NUMBERS AND PERCENTAGES OF THE TOTAL GROUP IN EACH CATEGORY.

	No. Scoring two or less sums right. ⁴	Attention.	Carrying.	Method.	Slowness.	Tables.
Addition	21	14 (10.4)	1 (.7)	3 ⁵ (2.2)	5 (3.7)	—
Subtraction	34	9 (6.7)	16 (11.9)	9 ⁶ (6.7)	16 (11.9)	—
Multiplication	57	16 (11.9)	4 (3.0)	4 ⁷ (3.0)	18 (13.3)	33 ⁸ (24.4)
Division	65	10 (7.4)	8 (5.9)	14 ⁹ (10.4)	34 (25.2)	37 (27.4)
Average Percentage ..		9.1	5.4	5.6	13.5	25.9

¹ See footnote, p. 25.

² Burr found that, of the four processes, subtraction was worked least accurately. In the case of our group, division appears to be the greater stumbling block.

³ The categories are not mutually exclusive and one candidate may, and frequently does, exhibit more than one defect.

⁴ Three or less in addition only.

⁵ Including a case in which the candidate commences by summing the tens column, writing the final digit of this sum as the left-hand figure of the answer, and carrying the hundreds and tens to the right-hand column. The total of the right-hand column is then written as the tens and units of his answer.

⁶ Including one who begins at the left, one who adds throughout, two who invariably subtract the smaller from the larger digit irrespective of position, and five who fail even with the single digits.

⁷ Including one who multiplies from left to right.

⁸ Including three to whom $7 \times 0 = 7$.

⁹ Including who one gave completely fictitious answers suggested by the figures of the dividend, three who subtracted throughout, one who multiplied, and one who added.

This analysis brings out very clearly that the principal causes of weakness in these fundamental processes are—apart from very marked deficiencies in knowledge of multiplication tables—*slowness*, which is bred partly from a feeble grasp of the method and partly a product of intellectual dullness, and *lapses in attention* which can hardly be due to fatigue since the test for each process lasted only three minutes and ample rest was allowed between each. *Ignorance of method* reaches serious proportions in Division, and is disturbing elsewhere; *failure to carry* is marked in Subtraction and in Division, but comparatively trifling in the other two processes.

What effect this weakness in fundamental processes has upon more complex operations is shown by the results obtained with forty-four of the juveniles on Ballard's Test of Arithmetical Devices.¹ This was administered incidentally in the course of teaching three of the classes containing those pupils who showed the greatest educational backwardness. It was not set as a strict test and therefore detailed results would be misleading. They do, however, indicate that over 50 per cent of this group are ignorant of the methods of Practice, Simple Division of Fractions, Division of Decimals, Ratios, and the Decimalisation of Money; one-third or more of the group showed no acquaintance with the methods of Multiplication of Money, Simple Addition and Subtraction of Fractions, and Averages; between a quarter and a third of the group failed to show any knowledge of the methods of Long Multiplication, Simple Multiplication of Fractions, Multiplication of Decimals, and Simple Interest. Division of Money and Long Division which proved the least difficult had been forgotten by 20 per cent and 14 per cent of the group respectively.

(ii) *The Spelling Test*.—The composition of the Spelling Test has already been described.² To render the results comparable with those given by Burt the score on the first twenty words of the test was multiplied by two, and the last ten words (taken *en bloc* from Burt's 14-year words) were scored at one point each. This gave a maximum possible for the test of fifty points. Assuming that all the words given for ages 5 – to 9 – , inclusive, could be spelt by the whole group,³ fifty can be added to the average score actually obtained and an average spelling age deduced for the group.⁴ This average proved to be 77·05,⁵ equivalent to a Spelling Age of 12·7. Thus in Spelling, as judged by the test, the group shows a retardation of 1·1 years as compared with its own average Mental Age and of 1·3 years as compared with the chronological age of school leaving. In terms of Educational Ratios these are equivalent to ninety-one and ninety-two respectively.

TABLE 3.

RESULTS OF THE SPELLING TEST SHOWING THE AVERAGE PERCENTAGES OF THE GROUP OF JUVENILES WHO SUCCEEDED IN SPELLING THE WORDS ASSIGNED BY BURT TO THE VARIOUS AGE LEVELS.

Age level to which words are assigned by Burt	10	11	12	13	14
Average percentage showing ability to spell the words....	80 per cent.	60 per cent.	58 per cent.	46 per cent.	29 per cent.
Word which gave <i>least</i> difficulty, and percentage of group succeeding	Surface 86 per cent.	Carriage 64 per cent.	Responsible 68 per cent.	Conceited 60 per cent.	Glazier 57 per cent.
Word which gave <i>most</i> difficulty, and percentage of group succeeding	Pleasant 73 per cent.	Business 46 per cent.	Peculiar 53 per cent.	Leopard Luxurious 36 per cent.	Tyrannous 1·5 per cent.

¹ *Mental Tests*, 1925, pp. 190-191.

² p. 21.

³ An assumption not justified in two cases who failed to score at all.

⁴ *Mental and Scholastic Tests*, p. 288. ⁵ $\sigma = 13\cdot0$ points or 1·25 mental years.

Of the two branches of formal education thus tested the retardation shown by the group in the test of spelling is certainly not as great as it is in the test of Arithmetic processes. Nevertheless, where the men and women tested are carrying out routine clerical duties, it is naturally chiefly errors in spelling that are the most noticeable. In most of the jobs in the depots it is possible to get through the day without a knowledge of Division of Decimals, but Table 3 shows that 27 per cent of the group will fail to spell 'pleasant' correctly, 54 per cent will not be able to spell 'business,' while words like 'tyrannous' are likely to be beyond the power of all but the best $1\frac{1}{2}$ per cent. Words like 'memoranda' and 'precision,' which are of frequent occurrence in documents used in the Civil Service, are spelt correctly by only 46 per cent and 42 per cent, respectively, of the entire group.

(iii) *The Comprehension Test.*—As already described, the Comprehension Test consisted of a piece of descriptive factual prose without intricacy of thought and expressed mostly in simple terms. The greatest demands on vocabulary are made by such words as 'portable,' 'dismantled,' 'transient,'¹ 'superpose,' 'telegraphy,' 'apparatus,' 'incorporate,'¹ 'respectively,' 'mobile,' 'indicator,' 'equipment,' 'accommodate,' and 'facilities.' In style and matter it is no more exacting than the average Ministry of Home Security Circular on Air Raid Precautions and considerably less difficult than the feature or leading articles of the Daily Press. Ten of the questions asked for points of fact clearly stated in the passage; and the final question supplied five simple definitions from which the first five words quoted above were to be identified. It is unlikely that it would take more than two minutes for a child of fourteen to read the passage aloud and the time allotment for the test thus left approximately ten minutes in which to answer eleven very brief questions. That this was not too exacting a limitation is shown by the numbers attempting nine or more of the questions (70 per cent of the group). The total possible score was fifteen, and the average score of the group only 4.98.² In terms of ability to understand printed English, this means that 16 per cent of our group were unable to pick out two salient facts from a short piece of prose and that half of the group found difficulty in understanding half of what they read, even when it consisted of simple concrete description of a practical piece of apparatus. Three per cent of the group failed to grasp the passage at all.

That this is not an alarmist over-statement is shown by the use of similar passages in teaching these juveniles. Paragraphs chosen from the leading and feature articles of newspapers (*Mirror*, *Express*, *Mail*) appear to give them considerable difficulty and one of the greatest problems has been to provide, for this form of training, material sufficiently elementary not to be discouraging. Words like 'gutted' and 'consumption,' phrases such as "starting off on the wrong foot," and the least trace of irony—however obvious—are beyond the comprehension and outside the experience of any but the brightest. A *Times* third leader, or the correspondence column, might as well be written in Japanese.³

IV.—QUESTIONNAIRE ON READING INTERESTS.

In these circumstances the results of a short questionnaire on reading interests given to eighty-eight of the juveniles (50 per cent girls) during the first week of the course are not without interest. It consisted of fourteen questions given orally, each one being

¹ It has been pointed out by Professor VALENTINE, quite rightly, that some of these are not 'simple terms.' The passage was, however, chosen to include a few less usual words so that the better candidates might have a chance to display superior ability. Each of these words was clearly comprehensible from its context and the evidence of the answer sheets shows that 'transient,' at all events, was familiar to some members of the group tested. It is unfortunately not possible, for security reasons, to publish the whole or even part of the extract used.

² $\sigma = 2.59$.

³ In a private letter Professor BURR writes: "I think we have none of us quite appreciated how rapidly the effects of schooling may be forgotten within two or three years of leaving school if the ex-pupils do not keep up their scholastic activities. I remember being very surprised at this when I was working at settlement clubs in the poorer quarters of London. Indeed, I think this fact is largely responsible for the illiteracy that surprises so many people when they meet it in the Army and also perhaps for the lack of the simple ability to spell and calculate about which people are constantly writing letters to the press." See also the postscript at the end of this article.

fully and carefully explained by the investigator. The first six questions were aimed at eliciting information about the reading of daily newspapers; the remainder concerned the numbers and kind of books and periodicals read. The same questionnaire was given to a group, of similar sex composition, of thirty-six adults, all in the Army or A.T.S., and all of them ex-elementary school pupils. All the replies to the questionnaire were anonymous. Space unfortunately does not permit of a detailed discussion of the results, but some highly suggestive data emerged from the experiment.

(a) *Newspaper reading.*—The tastes of the two groups, adult and juvenile, in daily newspapers do not differ significantly on the whole. The most popular paper in both is the *Daily Mirror*, which is read by just under half the juveniles and exactly half of the adults. The rest of the popular press (*Express*, *Mail*, *Herald*, *Sketch*) is represented fairly evenly in both, and in neither group is there any following for other types of newspaper. Between 10 and 15 per cent of both groups say they read more than one daily.¹

It is when we enquire which sections of the paper are read that significant differences emerge. Each group was asked to choose the three sections of their daily which they read first and place them in order of preference, giving their reasons. To arrive at the figures quoted below, a position of first was scored as three, of second as two, and of third as one point, giving a maximum possible score in the juvenile group of 264 and in the adult group of 108. The results are set out in Table 4.

TABLE 4.
PREFERENCES OF JUVENILE AND ADULT GROUPS FOR VARIOUS SECTIONS OF THE
DAILY NEWSPAPER.
(88 Juveniles and 36 Adults.)

<i>Part of Newspaper.</i>	<i>Percentage of Possible Score, Juveniles.</i>	<i>Order of Preference, Juveniles.</i>	<i>Percentage of Possible Score, Adults.</i>	<i>Order of Preference, Adults.</i>	<i>Level of Significance of Difference between Percentage Scores of the Two Groups.</i>
Current News of War	50	1	54	1	Not significant.
Gossip and Domestic News ..	18	5	21	6	Not significant.
Leading Articles	11	6	32	2	Over four times S.E.
Feature Articles	11	7	25	4	Over four times S.E.
Comic Strips	44	2	29	3	Over four times S.E.
Advertisements	2	8	0	8	Not significant.
Pictures	19	3=	22	5	Not significant.
Sports News	19	3=	1	7	Over four times S.E.

In both groups *Current News of the War* scores highest, and curiously enough the *Pictures* and *Domestic News* rank fairly low in both. In these respects and in a disregard of *Advertisements* juveniles and adults are similar. There the resemblance ends. The greatest difference is in the attention paid to *Comic Strips*, which, with the juveniles, achieve a score not significantly different from the figure for *Current News*, as against the much lower one of the adults. In interest in *Feature* and *Leading Articles*, too, the differences are almost equally striking. In the adult group the *Leading Article* ranks second

¹ This is remarkable in the adult group since newspapers are difficult to get.

in preference, and the *Feature Article* fourth; in the juvenile group they come sixth and seventh in favour. In one more item the difference is marked: the adult group takes little notice of the *Sports News*, which, for the juveniles, is equal in interest to *Pictures*.

Further light is thrown on these preferences by the reasons given for them and by the answers to a question dealing with how much of the news is read. In this last respect the difference is striking; while 80 per cent of the adult group claim always to read news as well as the headlines, only 15 per cent of the juveniles do so,¹ 17 per cent of the adults only sometimes reading beyond the headlines and 43 per cent of the juveniles. The reasons given in the two groups for reading the news of the war are closely similar. One juvenile writes quite frankly: "It is always on the front page and in large headlines" and "everyone is or should be interested in the war." Some at least have a sense of personal involvement: "Very interested in war as I have a brother serving in Italy," and another: "I am in a Pool (*Department*) which concerns the headlines." The same personal note enters into the adult comments: "It is news of the time and many friends whom you know are there fighting so as we may be free to read the comic strip first."² More revealing are the reasons given for reading the comic strip. Among the juveniles the narrative interest is marked: "I follow the serial up each day," "To get a laugh at Jane (*Daily Mirror*), and to see what she is going to do next." No one in the adult group mentions this aspect, but both groups agree in emphasising the escape motive. "It takes my mind away from the war more so than the latest news," writes one juvenile; "I don't always want to read about current affairs," confesses another. An adult writes in the same strain: "It is relaxation for a few moments and it takes one's mind from the war situation."

The leading articles appeal to some adults because "besides giving a form of commentary on the headlines," they "are of interest to everybody, especially to people in the forces." Those of the juveniles who do read them do so because they are "interested in politics" and because they "give me an insight into the more important news." Similarly, the feature articles are read for the "different opinions of various people" by the juveniles, and by the adults "to compare other people's ideas with one's own"; by some the educational aspect is stressed, while one adult writes of his interest in post-war planning. The pictures are looked at by those in both groups who "like to see the actual thing" and who are interested to "see what it's like in Italy and other parts of countries." The sports news enjoys a minor vogue with the juveniles, not confined to the boys, and the reason is not solely "to see if Charlton Athletic is mentioned or any other of my favourites in football," but in at least five cases "for a guide to football coupons."

(b) *Periodicals*.—From three questions which concerned the reading of periodicals, it was possible to compile a list of the kind of reading matter favoured and to get some inkling of its popularity. Among the juveniles sixty-seven different periodicals were mentioned, among the most popular of which to judge by the frequency with which they are mentioned are in order, *Picture Post*, *The Red Letter*, *Red Star Weekly*, *John Bull*, *The Woman*, *Woman's Own*, *Everybody's*, *Illustrated*, *Rover*, *Adventure*, *Woman's Weekly*, *Girls' Crystal*, *Wizard*, and *Picture Goer*, all of which are mentioned between five and twenty-five times. In the adult group *Picture Post*, *The Woman*, *Illustrated*, *Everybody's*, *Woman's Weekly*, *True Story* and *Life* head the list with three or more mentions each. A classification of the two lists under types of reading matter revealed only one difference approaching significance (twice S.E.). *Romantic Fiction* heads the juvenile list in popularity with 20 per cent of mentions, whereas with the adult group it takes third place with periodicals dealing with hobbies (11 per cent of mentions). Illustrated papers and women's periodicals occupy equal first places in the adult group and equal second places with the juveniles. It is interesting that 13 per cent of the mentions in the juvenile group is given to boys' fiction, whereas only 4 per cent of the mentions are bestowed on girls'

¹ Difference more than three and a half times S.E.

² This appears to mean that when the war is over, won by the efforts of the fighting men, we shall be able to slacken in attention to the more serious front-page news and pay attention to the lighter features of the paper such as comic strips.

periodicals. Comic papers (*Dandy*, *Radio Fun*) still occupy a small place in the juveniles' favour, though in view of the interest in comic strips one might have expected them to stand higher.¹

(c) *Books*.—Both groups were asked whether they possessed books of their own, how many, and of what kind. The average number possessed by both groups is approximately the same (19.0 juveniles, 20.6 adults) and in both fiction predominates. One difference (two and a half times S.E.) is in the number of works of non-fiction (travel, biography, topical political books, and works dealing with the war, but excluding poetry, drama, and technical works) possessed. While the adult figure is 28 per cent, that for the juveniles is 9 per cent. This difference in taste is echoed at about the same level of significance in answers to a question dealing with the kind of books read. Nineteen per cent of the juveniles mention reading works of non-fiction (of all kinds, excluding technical books), whereas 35 per cent of the adults make the same claim, although fiction bulks largest in both. Less marked is the discrepancy shown in the percentages of technical books owned where the figure for juveniles is 21 per cent and for the adults 14 per cent. In the libraries of neither group do drama and poetry bulk large (2.2 per cent juveniles, 2.8 per cent adults).

Both groups have about the same ease of access to branches of the County Library and to commercial lending and subscription libraries. The garrison at the larger of the two depots is well provided both with fiction and non-fiction collections open to civilian and military alike. In addition the surrounding towns have the usual chain libraries. In both groups, however, nearly half (48 per cent juveniles and 58 per cent adults²) do not belong to any library, and only just over 5 per cent of each group belong to more than one. Membership of book clubs is insignificant. Of the juveniles, nearly 10 per cent state that they do not read any books at all as compared with less than 3 per cent of the adult group.

Each group was asked to name the books and periodicals which had been read during the last fourteen days. Differences approaching full statistical³ significance appear in the percentages who read periodicals. This is considerably higher in the juvenile group (61 per cent) than among the adults (42 per cent), and in the two groups 14 per cent of the juveniles state that they read neither book nor periodical in the period, as against 25 per cent of the adults.⁴ The average number of books and periodicals read during the fortnight was slightly, but not significantly, higher among the juveniles (3.3 ± 3.8) than among the adults (2.9 ± 2.4).

From this rather cursory survey of reading habits one or two points worthy of mention arise:

- (1) Political awareness,⁵ as evinced by a study of leading articles and the current news, is barely awake in the juvenile group, whose interest in the newspaper passes quickly from headlines to comic strips. Although the concrete effects of the war are close enough to these young people to make them wish to escape

¹ It is not possible within the scope of this article to deal fully with the sex differences in reading tastes shown by the juvenile group, but the following differences, all more than three and a half times the S.E., are of interest. Nearly half the boys own technical books as against only four of the girls; the interest of the boys in current news of the war is nearly twice as great as that of the girls, who display more interest in feature articles. Interest in the sports news is five times as great among the boys as among the girls, many more of whom prefer the *Daily Mirror* to all other newspapers. All except one of the boys read more than the headlines, while fifteen of the girls read the headlines only. More romantic fiction, particularly in periodical form, is read by the girls, while the boys favour specifically boys' books or adventure stories.

² J. D. Hov, in his investigation into the interests of adult evening students, found that 43 per cent of his group belonged to no library.—This *Journal*, Vol. III, Part 1, February, 1933, p. 18.

³ Twice the S.E.

⁴ These adults for part of the 14-day period were on courses of intensive instruction during which they would have very little spare time.

⁵ Of interest here is the naïve comment of one member of a class which had been listening to a lecture on central government. No interest had been shown by her and when she was reminded that in five years she would have a vote and should know something about such things, she replied: "Oh, they'll tell me all about it, all in good time." One is reminded of Costardi's "I shall know when I have done it."

from it, the underlying political problems involved do not seem to affect them very intensely.

- (2) Few of them consider their paper critically. In answer to a question as to which paper they will take after the war, and why, 80 per cent of them propose to continue with the same one, in most cases, "because we have always had it"; 75 per cent of the adults are going to do the same, but the majority allege some reason, such as an appreciation of the outspokenness of the chosen paper or the colours of its politics.
- (3) The immense amount of periodical fiction devoured by both groups is noteworthy. Possibly some of the greater interest in romantic fiction shown by the juveniles is to be assigned to a newly enhanced consciousness of sex. Interesting, too, is the evidence of greater maturity shown by the girls who mention fewer school-girl books while juvenile fiction bulks fairly large with the boys.
- (4) The questionnaire afforded even less evidence of an increased interest in poetry than that found by Professor Wheeler,¹ with a presumably comparable group of adult workers. Everything, in fact, suggests that any quickening of emotional interests is confined solely to the more adult and, on the whole, less desirable literary forms.²
- (5) Membership of libraries which is not large in either group³ is, in the circumstances, disturbingly small among the juveniles. It certainly affords no evidence of a quickened interest in reading. Some perhaps of this is due to parental indifference, for of the juvenile group less than 20 per cent are encouraged to read, while the adults report in 61 per cent of the cases that they received encouragement at home.

V.—TEMPERAMENT.

This survey would not be complete without some comments upon the more intangible emotional characteristics which it is possible to observe in this group.

(a) *Vocational interests.*—In his article on "Adolescence and Some Problems of Youth Training," Professor Valentine⁴ points out that "the adolescent's strong interest in his vocation is one factor which should not be ignored" in the last year or two at school. In the case of the boys employed in R.E.M.E. workshops this interest is marked. All of them were volunteers for the course, and most of them have put in an enthusiastically unbroken attendance at both the technical and educational sides of their training. In addition, they have voiced some demand for instruction in mechanical theory and workshop mathematics of a kind more advanced than that contemplated under the present scheme.

This enthusiasm is not so marked in other groups, although, in the two classes of the highest average ability, considerable interest is shown in the details of procedure and in the practical applications of the knowledge gained. The group of lowest intelligence displays very little interest in the job for its own sake. Some of this difference is a matter of variations in intelligence, and probably this is the principal factor, but it should also be stressed that the girls, at all events, do not consider their present employment as anything but temporary, and think it likely to terminate at the end of the war. The enthusiasm of the workshop employees is as much due, no doubt, to the fact that these boys do really feel that they will be employed in Ordnance even after the war, as it is to their relatively high level of intelligence.

¹ Quoted in "Adolescence and Some Problems of Youth Training," by C. W. VALENTINE.—This *Journal*, Vol. XIII, Part II, p. 61 (Note).

² "We are struck by the low quality of many of the cheap books and magazines which enjoy a very high circulation, especially among girls."—*Youth Services after the War*, Board of Education. (H.M.S.O., 1943).

³ I should perhaps mention that even professional men and women whom I have met in the Army confess that, since joining up, their reading has shrunk to comparatively small proportions.

⁴ Previously cited.

(b) *Attitude towards education.*—It is noticeable that the more intelligent are more conscious of their educational disabilities, more keenly interested in current affairs,¹ more ready to put forth the effort necessary to brush up a fading groundwork of elementary knowledge. Many of those whose backwardness is marked have succeeded in evading the course entirely on one pretext or another,² while not a few in all groups attend merely because their superiors exert some little pressure. Generally, however, it may fairly be said that, if some are indifferent and a few hostile, the majority enjoy coming and believe that something of value is to be obtained.³

(c) *Maturity.*⁴—As a whole the group is surprisingly immature in many ways. The workshop boys are not past the gang stage and like to move about in flocks; skylarking and noise are the general rule in the absence of an instructor, and unless they are kept at a stretch throughout the period of instruction, there is a tendency to get out of hand. The girls are more staid, more conscious of their age. Few, however, have self-possession enough to read out loud without a great deal of encouragement, and it is difficult to induce a discussion without blushes of embarrassment, furtive nudges, and the exchange of remarks in whispers. This may be evidence of the "new feeling for self and increased need for psychological independence" mentioned by Professor Wheeler as one of the four major adjustments of this period.⁵

(d) *Interest in the opposite sex.*—The bulk of the group are past puberty (average age 15.93 years, S.D. 1.08 years), and while the variation in physical and mental development is very marked even to a casual eye, they are alike in being adolescent in the full sense of the term. Evidence of "increased interest in the opposite sex" (Professor Wheeler's second major adjustment) is not difficult to find. One of the workshop boys at Depot No. 2 was heard eagerly to ask of his companions: "Will those dames be there?" In most of the classes a mention of a certain lane in the vicinity is sufficient to waken a blush and a giggle, and one girl in answer to a questionnaire on the value of films stated that "If you never saw any love on the films you would not know how to make love yourself." Tactful oblique questioning also elicited the information that evenings not spent at the cinema or "helping mum" are spent by many in walks either in the streets or the waste ground nearly adjacent.

'Crushes' on the instructors are by no means uncommon. The instructor in charge of one class (mainly composed of girls) being on leave, another took her place. The class was deeply disappointed and showed no reticence in saying so to me. When the new instructor (this time a man) had been with the class for eight lectures, the general opinion underwent a marked change, and while the original favourite still held the field, her influence was fading and the affection was being transferred to her supplanter. In general, it may be said that the girls are more susceptible to crushes than the boys and more indifferent to the sex of the instructor.

(e) *Social and æsthetic emotions.*—Throughout the courses lectures upon the machinery of government, local and central, and on affairs of current interest, are given. Interest in these is not marked. The more intelligent groups are willing to learn, particularly the boys, but wholehearted interest in political and social problems has not yet been aroused among the girls. The lectures and discussions are being persisted in, in the hope that

¹ See footnote to p. 31.

² Some withdrawals have been made on the score of age, or of attendance at courses elsewhere; these amount in all to thirteen or nearly 10 per cent; thirty-two others (24 per cent) have failed to attend more than a few classes. Irregular attendance has been very marked in the group of lowest intelligence and educational attainment, but not so prevalent elsewhere. It is noticeable that only fifty-four (67.5 per cent) of the eighty juveniles detailed for the first experimental courses in procedure only (see page 19) attended and that irregularity of attendance was even more marked.

³ In this connection it is interesting to note that there was the same objection to the idea of returning to school as is reported by LUSH in his *Young Adult in South Wales*, 1941, p. 76.

⁴ WELLS's Emotional Age Scale shows a fairly high *r* with intelligence; CAMERON: *Objective and Experimental Psychiatry*, pp. 69-70.

⁵ Article, "The Service of Youth."—This *Journal*, Vol. XIII, Part II.

knowledge will awaken interest and, as far as possible, the instruction is given in terms which make the issues personal ones.¹

Of the arousal of æsthetic emotions I find some evidence. Only two of the group confessed to reading "Alfred, Lord Tennyson" and "Shakespeare Plays"; but, in reply to a questionnaire on film tastes, some justify a preference for musical films because "you hear good songs," some also read film criticism or listen to it over the wireless, and all allege that they would prefer to see a good film in an uncomfortable cinema rather than a poor one in a luxurious setting. This cannot be called evidence for more than a rudimentary budding of æsthetic emotion, but, in terms of the intelligence and cultural level of the group, even such a stirring is noteworthy. The cinema consistently ignored or condemned in many schools seems the most likely means of approach, in this group, to a development of an æsthetic and critical attitude.²

VI.—PROGRAMME OF INSTRUCTION.

This comparatively cursory survey of the psychological and educational status, of these young people—who are fairly representative of the large mass of the population—raises a number of urgent practical problems. No doubt some of the educational retardation discovered is due to dropping all regular instruction at too early an age, but the curriculum of the elementary school cannot be absolved from the criticism that much of what is taught holds no compelling interest for too many of the pupils. The limitation of the innate intelligence of such children imposes a greater demand upon the educator to stimulate interest in those things which are going to be vital to the social and political life of the community: the super-normal child, for whom an academic education is suitable, will often find for himself the way to a wide and intelligent adult outlook; the average and below average children need the way made smooth and attractive.

The Norwood Report and many recent pronouncements of educationists have underlined what the teacher in the elementary school has long known, that for the majority of children education with even a faintly academic bias is entirely unsuitable. "Equality of opportunity" in education is an admirable ideal, but it should not degenerate into a catchword or be thought of as implying equality in *ability to profit* by secondary, university or any other kind of training. What appears to be needed with adolescents of the type of the present group is neither a continuation of training along the lines of the elementary curriculum nor a faint imitation of the subjects taught in the secondary school, but education of an entirely new type which, while preserving the groundwork of the "three r's" unimpaired, shall lead on to a fuller mental development.

Doubtless continuity between the primary school and whole or part-time education to the age of eighteen would have done much to mitigate the sad state of educational decay revealed by the present group. But the immediate post-war period may bring many adolescents of a similarly interrupted background into compulsory attendance at part-time schools, and thus raise the problem of suitable transitional measures aimed at preventing a decline into semi-literacy and a full preparation for the obligations of citizenship. The limited scheme attempted at these two centres may therefore be of interest. The exigencies of the man-power situation limit the time to a few hours' instruction a week spread over fifteen weeks, and the difficulty of obtaining even the simplest equipment rules out any experiment with practical subjects such as housewifery, handicrafts, or even elementary

¹ It seems quite clear that limitations in the amount of innate intelligence impose a limit reached when the individual attains maturity. It must therefore limit not only the ability to adjust to concrete personal situations but also the power to appreciate the more abstract issues involved in a proper understanding of democratic conditions. This seems to be implicit in the correlations of 'g' with various social qualities discussed by Spearman in the *Abilities of Man*, 1927, Ch. XX.

² In this respect the balanced remarks made in the White Paper on "Youth Services after the War," previously referred to, are worthy of quotation: "... the cinema's potentialities for good are boundless and we urge that much more attention be given, both in school hours and in clubs, by discussion, informed criticism and planned cinema going, to the use which can be made of it" (p. 13).

science so far as it requires apparatus. Hence in devising a syllabus and in dividing the group into classes, compromise and makeshift are inevitable.

The boys from the workshops at the two depots have thirty hours (two hours a week) elementary technical instruction in the stores which they have to handle. In this technical instruction, films showing the equipments in operation are freely used and the stores themselves are available for inspection and demonstration. In addition to this, they are allowed two hours a week (thirty hours) at Depot No. 2, and one hour a week (fifteen hours) at Depot No. 1 for strictly educational purposes.

At Depot No. 1 the remainder of the group is divided into four classes according to intelligence and educational attainments. The total amount of instruction of all kinds given each week varies from group to group. A group which contains the best intellectually has three hours a week (forty-five hours in all); the B and C groups, who are just above and just below the average level, have two hours a week (thirty hours in all), and the D group, which contains a high sprinkling of the educationally and mentally retarded, is given five hours a week (seventy-five hours in all). This differential treatment was considered to be the best compromise between the need for slower progress in the poorest group and the man-power demands of the depot. The extra hour given to the A group is an investment of time in a form of training, the writing of letters, abstracts and memoranda, which is beyond the grasp of most of the boys and girls in the other groups.

At Depot No. 2 it was found possible to allow four hours a week for all courses, which makes a total of sixty hours for the fifteen weeks. In all courses provision has been made for a brief examination to be held at the end of the fifteen-week period.

The vocational training, which occupies about half the time allowed, aims at giving a simply understood outline of the work of the depots, their position in the supply chain from the factory to the front line. Just so much detail as is likely to be of practical service is included, and, at intervals, time will be spent in visits to the departments to see work in progress. Some use of films to stimulate interest in the stores handled will be made. Throughout, the emphasis is laid, especially with the D group, upon the actual conduct of the work they are doing or are likely to do in the near future. The second half of the course will be devoted to an intensive study of the particular departments in which the trainees are employed.

The educational programme is of necessity very limited. Little more than an *ad hoc* revision of particular weaknesses can be undertaken and an attempt made to rouse interest in matters of importance to the adult citizen. Great emphasis is laid upon building up an adequate command of the English language by means of passages for comprehension exercises chosen from the daily press. Every educational hour is prefaced by ten minutes' discussion of the day's news, a period which frequently leads some at least of each group to lose their self-consciousness temporarily and flare into argument.

Attempts are also being made to get these young people to discuss freely, and such topics as their own education, their taste in films and what they look for from the post-war world have either been canvassed or will be so shortly. The questionnaires given on reading and on films have also served in a large measure to stimulate self-expression. They are eagerly answered, and some of the questions requiring reasons for preferences call forth quite lengthy comments. The end of the questioning on the part of the instructor is usually followed by a brisk discussion of points raised in the questionnaire, and a comparison of opinion which has considerable value.

Reference has already been made to lectures given on local and central government and the public services (pp. 28 and 30).

The atmosphere of all classes is kept informal. Blackboard and tables sometimes there must be, but for most periods the class is grouped in a semi-circle at ease around the fire. Every effort is made to treat even the least mature as fully responsible adults and to avoid the atmosphere of a return to school, an approach to which most of these adolescents respond readily. It is fair to say that now the slow process of rousing confidence is beginning.

VII.—SUMMARY AND CONCLUSIONS.

(1) The group of juveniles with which this study deals consists of eighty-eight girls and forty-seven boys, averaging 15·93 years of age, employed in two large Army centres, and drawn from areas partly agricultural and partly industrial. Environmental and economic factors have contributed to a slightly narrower range of variation in ability than might have been expected. All the juveniles have had nothing but an elementary education, and are representative of children of skilled and unskilled workers, minor clerical grades, shop-keepers, miners, and casual labourers.

(2) A test of intelligence shows that the innate intellectual level of the group corresponds to an intelligence quotient of ninety-two and a mental age of 13·8 years. The group is thus slightly lower in ability than the average sample of the ordinary elementary school population,¹ and may be regarded as representing the lower two-thirds of the total population.

(3) In arithmetic (four fundamental processes) the average level of performance is lower than that which might be expected, even from such a group, to a degree which indicates an average retardation of between one and a half and three educational years. It is the subject which has suffered most from disuse and the upset of education during the war.

(4) The results of the spelling test indicate that there is some degree of backwardness (one year), which, although more serious vocationally, is less marked than the weakness in arithmetic.

(5) The comprehension test score reveals that the ability to extract concrete facts from practical and simply written material is undeveloped to any useful degree in a large majority of the group.

(6) The questionnaire on reading interests suggests that only the more superficial portions of the daily press hold any compelling attraction for these young people, and significant differences emerged from the tastes of a similar adult group in the attitude towards current news of the war, feature and leading articles, sports news, and comic strips. The interest in romantic fiction is also greater in the juvenile group, and the kind of periodicals read are aptly described as not "indecent in the narrow legal sense, but unwholesome and pernicious."²

(7) Although the whole group is well on into adolescence, evidence of the capacity either for social interests in the widest sense or for æsthetic emotions is scanty; that these have been stimulated to any degree is not apparent. Strong vocational interest is almost entirely confined to the boys. Maturity in these respects appears partly at least to be a function of intelligence and it is likely that in a proportion of the groups they will not develop noticeably at all. Enhanced awareness of sex is characteristic of the whole group.

(8) The instruction undertaken has not been continued for a sufficient length of time yet to determine its power to arrest the decline of elementary knowledge and stimulate new interests. It has, however, shown the value of an informal approach. That this in itself (in the absence of compelling vocational motives) is insufficient to attract the whole of the age group is shown by the proportions of total absence and irregular attendance. In the interests especially of the more backward some degree of *compulsory* attendance at continuation schools would seem to be inevitable.³

(9) Further investigation both into the interests of this and similar groups and into methods of teaching them seems highly desirable. In particular, the influence of the cinema cannot be ignored.

¹ See, for example, the diagram re-published by CATTELL in his handbook for his own *Individual Intelligence Tests* from his article "Intelligence Levels in Schools of the South-West" (*Forum*, Vol. VIII, November, 1930), or BURR's "Tables of the Distribution of Intelligence among Children of Ordinary Elementary Schools" (*Mental and Scholastic Tests*, pp. 161 and 161).

² White Paper on "Youth Services," previously quoted.

³ As indeed is provided for in the new Education Bill (see *Explanatory Memorandum by the President of the Board*, H.M.S.O., 1943, pp. 9-10.)

POSTSCRIPT.

The groups are, unfortunately, too small and too heterogeneous in intellectual ability and in educational background to warrant a comprehensive analysis by age groups to determine exactly how much of the fundamentals of knowledge is lost year by year. The table below, however, shows the average scores (correct to the nearest whole number) in the various tests made by those who have :

Left school (a) less than a year ; (b) more than one but less than two years ; (c) more than two but less than three years ; (d) more than three years.

AVERAGE PERFORMANCES ON THE INITIAL TESTS ACHIEVED BY FOUR SUCCESSIVE AGE GROUPS.
(135 Adolescents.)

Group.	Intelligence Test. Score.	Addition. Sums Right.	Subtraction. Sums Right.	Multiplication. Sums Right.	Division. Sums Right.	Spelling Test. Score out of 100.	Comprehension. Test. Score.	No. in Group.
Left school less than one year ..	23	6	5	4	3	76	5	26
Left school more than one and less than two years..	22	7	5	3	3	78	5	49
Left school more than two and less than three years	20	7	5	4	3	76	5	46
Left school more than three years	21	8	5	4	3	77	5	14

These figures show no significant differences either in innate intellectual ability or in any of the branches of knowledge tested in any of the four groups. By this fact two conclusions are suggested. The first year after leaving school appears to be, as might be expected, the period of greatest educational decay though, in the absence of tests carried out during the last year at school, it is impossible to prove this. However, another factor, the operation of which would tend to disguise any differences in the level of performance of the age groups on which the table is based, appears to be more disturbing. The length of time which the children in these groups have spent in *war-time* schooling varies from four years in the first group to no more than one year in the oldest group. There is little doubt, I think, that the disorganisation of education caused by the war and the call-up of the younger teachers is exacting a steadily *increasing* toll, with each year, on the efficiency of the schools. An urgent educational reform therefore seems to be an attempt, by continuation training, to repair the educational losses of those adolescents who have left school during the war and to prevent our present elementary school-leavers from a rapid lapse into semi-literacy.

My warmest thanks are due to Professor Valentine and Professor Burt for their friendly interest in this enquiry from its inception and for their many helpful criticisms when the paper was in typescript. I should also like to thank the Commandants of the two depots and the Officer-in-Charge of the Training Branch for their sympathetic encouragement. To my colleagues in the Training Branch who, some as instructors and others from wide civilian experience of teaching, have discussed points as they arose and gathered material for me, my debt is also very considerable.

NORMALISATION OF THE CHILD-ADULT RELATIONSHIP.¹

By CLAUDE A. CLAREMONT.

I.—*Scope of the enquiry.* II.—*Nature of the concept.* III.—*First approximation.* IV.—*Sources of knowledge of the normal: (a) biological; (b) historical.* V.—*The normal and the abnormal contrasted.* VI.—*Recent information from modern pedagogy.* VII.—*Has this a place in science?* VIII.—*Summary and conclusions: (a) in general; (b) in application to child hygiene.*

I.—SCOPE OF THE ENQUIRY.

THE writer has for some time been wondering whether, from the various sources available, some ancient and some very new, enough evidence can now be collected to enable at least a beginning to be made in the determination of what might be called a normal condition, or form, of the child-adult relationship. If the clinical evidence which is so rapidly accumulating as to the sources of psychotic states points constantly to a moment, or time, in childhood, in which a false, or twisted, child-adult relationship is to blame, then it follows by corollary that there must be some form of relationship not twisted, or strained, a form which could accordingly be described as normal, and upon the preservation of which, through the years of growth, adult normality will largely depend.

The object of the present paper is to invite attention to this question, and to take one or two of the more obvious first steps to the defining of such a norm—steps to which it is hoped that others will be instigated to add. Far from claiming finality, it proposes to ask questions rather than answer them; and if it has merit this will depend mainly on whether those questions are worth asking.

II.—NATURE OF THE CONCEPT.

In the first place, how should we conceive of this child-adult relationship? As a concept in psychology I take it to be relatively new, and one of its more remarkable features is certainly that it has come in the last few years to have more than a merely logical content.

By this I mean that it is not just an 'eduction' (to use Spearman's terminology); a product purely of mind forging the instruments for its thought; but psychology—in particular, the Freudian school—discerns in it something factual, a bond of attraction uniting two people in such a way as to affect their conduct; in other words, it contains something invisible, but not on that account unreal. Freud's word, *libido*, before losing its original and most useful meaning, and becoming equated to any kind of desire, connoted some kind of emotional fixation or attachment to a particular love-object. Behind it lay the concept not merely of a generalised love-force, but of a particular love-force of a selective and exclusive kind. One pictured a kind of personal magnetism capable not merely of lifting nails, but of taking a fancy to some particular nail and lifting only that.

The 'transference,' so critical and dynamic an event in treatment, was a moving or translating of this attachment from one individual to another. Such a purely personal, selective and fixative force I take to be present in many child-adult relationships. How, otherwise, can we account for the special *rapprochement* which springs up between a child and some particular adult, just as it does between a lover and his mate? The child's own adult shines to him with a peculiar light, bears a halo of romance far from shared by other figures, awakens in him love, the desire to serve, to please, and all the anxieties, fears and guilt that come from a failure to please.

¹ Based on a paper read at the Extended General Meeting of the British Psychological Society held in Oxford, April, 1943.

This is common knowledge, recollectible in ourselves and observable in others. Not only so, but it would seem that every child *must* have an adult to whom he is attached in this way. Failing the normal provision, he adopts one, and hardly the adult who can resist his overtures. To very little children the really unnameable horror is to be left alone. One can see it in their reaction to stories. "The little girl was left all alone"—this is the moment of dramatic suspense; sympathy rends the heart. A child left solitary in a perambulator will often make overtures to any adult who happens to pass. And those who adopt children often say in fun; "The child adopted me."

The child does, in fact, often make a slave of the adult—a thing too easily forgotten in discussions about the freedom of children. When we see an adult resorting to a slipper it would be just as logical to say, "Here is an adult goaded into rebellion," as to say, "Here is an adult playing the tyrant."

Having reached that point, it becomes clear that in discussing the child-adult relationship we are not discussing something unimportant, of no concern to the educator; we are definitely adding to educational theory a topic worthy of its attention. For, even though the fallacy of 'the abstract child' is no longer with us, and all are eager to study individual children, it is still too often forgotten that these individual children do not constitute the whole problem. Each is part of a larger biological unit. No child is ever just a child, he is always a child plus an adult. The child-adult is the real unit on which we are working, and, although this is becoming recognised among child-therapists, educators—if they refer to it at all—do so in only a vague, baffled and somewhat defeatist way.

Yet the tendency to found parents' circles, and to make the school a social centre, are evident responses to the slow pressure of the fact itself, while no less than a major social disaster was the war-enforced closure of the Peckham Health Centre, the first health club to make the family the unit-member, parts of families not being admitted. One can well imagine it becoming a commonplace to say to parents: "Very well, our school will take your child, but here is a list of lectures which all our parents are expected to attend!"

I assume, therefore, that we can accept this relationship as something actual; it is a bond linking two lives indissolubly into one. We may not be able to see it, but we ought to consider it as there; not just conceptually there, but actually there; which means that our idea of it may be very inadequate, just as our idea of the attractive force between magnets is very inadequate, in the sense that our conception of it is not the whole story; there is something real which does, always did and always will, link those magnets, whether we conceive of it or not.

Now every real thing—a chair, a table, and, for all I know, the invisible molecule—can have its disasters and misfortunes. It can be placed under strain, or it can break altogether. The body of man has its misfortunes, so does the mind of man; why not the force which binds one mind-body to another mind-body? In other words, the contemplation of a real relationship of this kind leads us to ask what dangers can assail it, what are its adversities? And this, again, leads us to ask: "What is its state of well-being; what is its normality; or, under what conditions can we expect to find it in healthful normal functioning?"

III.—FIRST APPROXIMATION.

In a first survey one can do little more than mark-in the outlines of the problem. But an obvious and most grave abnormality must occur when the love-tie is not mutual; when the child is attached to an adult, but not that adult to him. Here are the seeds of tragedy and drama, as in adult triangles. The mother may love her child, but the child loves his nurse; or the teacher at school may become the object of a projected admiration which really belongs to a beloved aunt, or to an elder sister at home; while the cases are legion in which forced acquaintance has led not at all to mutual affection, but to mutual antipathy.

None of these conditions can be so satisfactory as when the love-tie is mutual, and I suggest, therefore, that this mutuality be taken provisionally as the fundamental basis of the norm.

The absence of strain, shocks, disillusionings, jealousies, that goes with this basic normality, can only engender a corresponding tranquillity in which the normal joys of existence are not inhibited; in other words, one of the signs of this normality will be happiness. This, too, agrees with common observation. Those children are happiest who grow up in undisturbed enjoyment of healthy normal parents, without the intervention of third parties. The nurse (meaning not a person helping the household generally, but a person replacing the mother for many hours a day as the child's chief attendant) must either shut the child off from his mother, or become herself the child's adult; a strain-producing circumstance, to say the least, in the mother.

Historically, the nurse of this type has not appeared as a social phenomenon except on small parts of the earth's surface, and there only for very limited periods. She cannot be regarded as a regular feature of those patterns towards which man's social arrangements tend to gravitate. One may conclude that the child's nurse is not natural to man. Like so many arrangements adopted for convenience, they may seem logically all right, but psychologically they are all wrong.

IV.—SOURCES OF KNOWLEDGE OF THE NORMAL.

(a) *Biological*.—Has the mutual attachment between child and adult any biological significance or importance? We can only conclude that it has. The child is a dependent being, and will be till adult. He needs so much care that only passionate love, love self-forgetful to the point of heroism, can in the world we know possibly provide it. But why the child's corresponding devotion to 'his' adult? I make bold to suggest that the ultimate reason is the need for his obedience. Surely he, too, must be blind, illogical, devoted; the minor arm in this partnership; seeing all as his guardian sees it, and prepared to take on trust what he cannot yet understand?

A moment's thought shows that this is much needed for his protection. The chick does not reason about the fox, it comes to shelter at its mother's call. Disadvantageous we may think it that the child should take his adult's opinions ready-made. Yet we not only know that he does, but we can see in the dangers that threaten him why he must. The situation, however, is, in fact, saved, since this slavish acceptance of the adult's views corresponds only to a first period of development, and is succeeded later by a more critical one, also normal, in which the adult wishing to persuade is obliged to reason, and in which the child very often revises his early judgments of the infallibility and perfection of his home. Hall, Montessori, Lane, Bühler, and other students of the adolescent period, are all emphatic on this point. But, in the earlier 'take it for granted' period, reasoning is just as much out of place. All skilled teachers of little children are amused when the successful teacher of adolescents tries the same methods of explanation in the infant-class. They know too well that the infant mind does not want to be persuaded but wants to be told, and that in moral matters a tone of voice expressing indignation or dismay is often enough. This type of child distinguishes between right and wrong with as much ease as between red and blue, but his talisman is always the adult; it is the adult's inner reaction, his 'feeling' towards the issue, that determines the child's.

In this sense young children are very parts of us, a fact, again, on which the psycho-therapist is particularly emphatic, often going so far as to say that, whatever we may say, or refrain from saying, to the child, it is what we ourselves think and feel that becomes transferred. To regard this phenomenon as mainly defensive causes one to view it alongside other defensive measures, if not instinctive then traditional. Laws can be given arbitrarily, or they can be connected with the real (though not, perhaps, self-evident) fact that if you break them you die, or your group dies. And I sometimes wonder whether this is not the root reality underlying that one of the Ten Commandments which seems, on the face of it, less obviously than the others to be connected with human survival: "Honour

thy father and thy mother?" In the time of emergency, and of all crucial decisions, their wisdom *must* predominate; they are the senior partners in the firm, and safety demands their pre-eminence.

That it can be, and sometimes is, artificially reversed can be seen in the recommendations of those modern educators who, in consequence of what seems impeccable logic, proceed to eliminate the 'authoritarian' adult, as it were, by force. But those teachers who try this find themselves opposed by a natural 'set' both in their own constitutions and in those of the children, with the result that the effort is constantly breaking down, and both teachers and taught, in this kind of school, seem (to the ordinary eye) to go about with a permanently dazed expression.

(b) *Historical*.—So much then for safety. But does the mutual attachment fill any other function? At least one can be discerned. It facilitates the transmission of culture, of actual knowledge and skill from one generation to the next. Just as the 'adored adult' can obtain the child's unquestioning obedience whenever strongly persuaded of the need, so there is no one from whose lips the child more readily learns the accumulated wisdom of life, or the professional arts which his people hold dear. Surely an outstanding wonder of man's achievement on this earth is the continuity of his culture from generation to generation. Building, agriculture, navigation, engineering, go forward as with a single sweep. The loss of some great man seems at the moment final, but, no, his work survives. What but some great compelling link can bind the past with the present, and the present with the future? There must be an eagerness to pass on, which I suggest is mutual; a passion to teach on the one side and to learn on the other. And what more rapid conduit, or channel, can be offered to this flow than that which affection establishes between the old and the young? The father, in fact, invariably teaches his son that which he himself holds to be most valuable. The master-mariner teaches him navigation, the carpenter carpentering, and if religion or atheism be held dear, these will be transmitted. The mother teaches her daughter house-craft or love-craft maybe.

So that these forces are independent of period or civilisation; they pass on that which is, no matter *what* it is. The bond is a pipe-line, with the child at the receiving end, and 'his adult' the gushing fount at the other. Here, again, is material corroborated by common observation. Most of us can remember the lessons we learnt best. Where did they come from? If not from a beloved parent then from some revered teacher, who undoubtedly for the time being had taken over our loyalty and worship.

Here perhaps is the origin of apprenticeship, an institution far older than the school, which—for all the importance we give it—is (like the nurse) but the product of a few generations in relatively few spots. The master-apprentice relationship is far more universal than the pupil-schoolmaster relationship. Undoubtedly the apprentice and his master 'wed' one another and form a partnership, with reverence and the wish to please on one side and the desire to teach on the other. The master takes a pride in his apprentice's progress; he is a foster-father in the trade concerned.

Stories from those periods of history when the relationship was general give us a feeling, as we read them, of great happiness. Sometimes there did arise the appearance of a school, but it had a foundation of mutual attraction very different from the schools of to-day. A master of some art, or a philosopher, might have many students, but all were drawn by the same flame, and none of them were coerced. Although schools, as we now think of them, were few, it seems that few children really born to the higher learning had to go without it. The apprentice adopted his master as the founding his foster-parent, and he often 'paid' for his training by his help. Strange if a boy of mathematical gifts could not find someone to impart. What else is youth for, and its hours of leisure? But in our day it has come to have one colossal enemy, that of child-labour, and I am inclined myself—this is purely personal—to see in this the real social origin of the modern school; it is truly a device of resistance to the whirlpool. But that whirlpool also has origins which make of it a non-general feature of times which have no permanence—the nurse, the school, and the man-eating factory are phenomena of districts and of periods. Meanwhile, learning (not necessarily reading and writing, but the arts, for example, of hunting

and husbandry) goes on everywhere ; and, as for the higher learning, far from having been born when the schools were born, it is open to question how far they contribute to it.

V.—THE NORMAL AND THE ABNORMAL CONTRASTED.

If these three features (mutuality, defence, and transmission) be the main—or even some—of the signs of the child-adult relationship when normally at work, to what errors, distortions or disasters is it subject ? Curiously enough, it is easier to state the causes of the abnormality than the manifold forms and shades of it to which these give rise. The causes are three : non-mutuality, exploitation, and mistaken beliefs of the adult-mind, beliefs which in their turn can serve as cloaks to the first two. But these invariably cause an effortful violence to be done, contrary to natural inclination. It needs effort to see a child make remediable mistakes in moral or hygienic matters, and not correct them ; it needs effort to force upon a child knowledge appreciated neither by the teacher nor the taught. Outside the school neither of these is likely to happen, but a school curriculum can force a teacher to teach what he himself does not believe ; while many teachers teach what they do not think to be necessary, and sometimes what they do not even understand ! Small wonder that a minor war springs up, a weary dispirited compulsion taking the place of enthusiasm, while the child, feeling himself in the grip of an enemy, becomes a dissembler or a rebel, or, if bright enough to please without effort, a prig.

Some parents, like the elder Mill, feel it a matter of conscience to stuff the child's head with matter out of season ; others—not usually parents, but inspectors and doctors—feel it a matter of conscience to prevent the child from doing serious work till he is over seven. This again can produce conflict, a sense of strain inevitable when the normal relationship is subverted. I have known a nursery school teacher in tears, complaining that she used to sew quietly in the afternoons while her children worked, but now an inspector has ordered them to play and she is busy the whole afternoon preventing them from working.

Let us consider the normal procedure of the master with his apprentice. In the first place he does not teach all the time ; he is busy himself and could not if he would. His method is to put the child on the right path and leave him to get on with it, often without supervision. He may even overlook errors when they are not culpable errors, but due to lack of development or of practice. Always he will be encouraging ; always he is himself a lover of the subject ; always, too, he remains ' the boss.' His instruction is forced to follow the child's development, opportune step by step. It is a question of giving a lesson, or hint, when needed ; the moment is not arbitrary, at the same time it is not fore-ordained by head office. Reward lies in the work ; there are no marks or prizes ; confidence grows with success, not by comparison with someone else's failure. There can be no progress without discipline, and the craftsman's is the most onerous of all disciplines ; it needs a constant effort over one's self. What a different atmosphere from that of the school, in which ' odious comparisons ' are the rule and—because only one can be first—inferiority complexes are mass-produced !

Or consider the daughter learning housecraft, one of the most varied and delightful kinds of work (called drudgery, perhaps, so that the office may not seem so !). Here is the negation of mechanism, where the weather, one's state of health, or even the visits of friends, can alter the work ; where art makes beauty and pride makes health, and love ministers directly to the needs of others. There is an age for learning these things when book-keeping itself comes with an aura of romance ; economical shopping, the ' nest-egg,' the new baby, accidents and even illnesses, fill days and nights with the drama of reality to which plays and novels are but a shadow, a palliative to wage-slavery and the loss of adventure. And is there no room for study, art, and the higher culture for those with a bent for them ? In the home, both learning and teaching are unconscious accompaniments of the stuff of existence, and how widely spread is this picture over the face of the earth ! Can one be honest and say that where it exists happiness has departed ?

Here, and in the master-apprentice relationship, one seems to see a model of the child-adult relationship in its most healthful form; they can, I suggest, be taken as examples of normality, talismans to show where distortion or disturbance has occurred.¹

VI.—RECENT INFORMATION FROM MODERN PEGAGOGY.

And one more source of information must, of course, be laid under contribution. I refer to the recent transformations of schoolroom theory and practice mainly associated with the name of Montessori, but with which should be coupled more often than it is the name of her great predecessor, Seguin (for whose genius as an originator and breaker with tradition I find myself growing daily in respect). For if, as most agree, the future will look to these two doctors of medicine as heralding in education an epoch no less distinctive than that of Darwin in biology, Newton in dynamics, or Freud in psychology, it is not because they aimed directly at this transformation, but because it descended on them as a hardly anticipated consequence. Commentators, in my view, have failed hitherto to place this in proper perspective; but their essential contribution is not a change of attitude, or even the adoption of a principle (for both were known before), but a series of practical steps in the immense obscurity of disentangling children's difficulties.

To realise, as Seguin did, that to proceed mentally from the idea of one thing to the idea of two things, involved a greater step than to pass from two to three, or three to four, was a stroke of outstanding genius, and the provision of a suitable model to make it as easy for the stupid child to take this step as it is for the clever, was an achievement of very much higher order than to say, "Let us have self-government," or "Let us observe the children," or "Let us abolish punishments." From the slow, laborious disclosure of these and kindred sources of difficulty, and the design of aids for each, came the practical success of the slogan, "Let the children choose their work." Naturally, because the work, being no longer difficult, did not repel.

It was these aids, each concrete and precise as a chisel, or a clinical thermometer that brought the transformed classroom out of the land of dreams, principles or ideals, and into the real hard world of inspectors and standards of attainment; and, in that classroom, a change of relationship between teacher and taught was not only desirable but, to tell the truth, unavoidable. Normality, *ipso facto*, reasserted itself.

For how does this teacher proceed? The parallel is most striking. Generously and with conviction she is now free to bestow culture; yet she does so at moments dictated by development and not by head office. Always she is encouraging, often overlooking errors due to lack of practice or development. For much of the time she is 'busy elsewhere' while the individual child 'gets on with it' without supervision. Yet always she remains 'the boss'; she does not relinquish her first duty of guardianship and protection, but blends it with her art of instruction, never by force but always by mutual enthusiasm and the consent of the learner.

But while the craftsman, busy elsewhere, automatically respects his pupil's profound instinct to accomplish single-handed, to reject over-help and to isolate himself in the depths of concentrated effort, the adult trained for this kind of work can take up an extra task, that of scientific observation, which in turn acts as a safeguard to the child against over-interference. The child-watcher eager to learn would as soon interrupt a piece of spontaneous work as a butterfly collector would damage a valuable specimen. The child's

¹ Another kind of abnormal relationship is that adopted for therapeutic purposes during the 'psycho-analytic hour,' when the mentor, or moral guardian, function of the adult is temporarily removed or diminished, in order to uncover or, as it were, 'open up' the child's unconscious mind, much as a surgeon performs a 'look-see' operation on the intestines. This, as Dr. Susan Isaacs very kindly pointed out to me in a public discussion, places the patient's relationship to the analyst in a class apart from any relationships to be found in ordinary daily life. But, however valuable such intermissions may be (and the writer has long been convinced of their value) as therapeutic measures, no one, I think, claims that the special atmosphere then created should, or could, be a standard feature of waking existence; indeed, the very word 'therapy' would indicate a diminishing need for it as health replaces sickness.

own enthusiasms, his intense self-pursuit of a given skill or understanding, *are* this teacher's 'specimens.' She mounts guard over them, shields them from intruders, like a bird-lover about to shoot a film.¹

VII.—HAS IT A PLACE IN SCIENCE ?

Montessori's bold claim that the school conducted thus was itself a new kind of laboratory, every bit as serious and effective as that for physics or physiology, might have stood a better chance of acceptance had it not seemed to be animated by apparent contradictions. For it did not seem clear that the teacher's mission of guardian, and even moralist, could fail to interfere with her work as a scientific observer. "How," it is often said, "can one observing objectively claim the right to say 'No' occasionally to the principle actor in the drama? Surely," such a critic maintains, "observations are only reliable when the observee is observed like Pavlov's dogs—at least metaphorically—through a hole in the partition!"

But I suggest, again tentatively, that considerable importance must be attributed in this discussion to the normalising of the relationship between the observer and the observed. If this can be done then observations are at once placed upon a common basis, since normality is one and unique. Personal differences of judgment may supervene, as in every art, but they cause little change in the common fundamental. In fact, long experience has brought about the exciting discovery that the more expert the practitioners the less they tend to differ, much as leading physicians tend to agree on diagnosis. To roll the scientific child-student and 'the child's own adult' into one and the same person has therefore every advantage—it is far better than the hole in the partition—once we accept the principle that the child's adult must of necessity be present, and that the child himself is not living normally (i.e., can be no fit subject for scientific observation) unless that person is both present and in normal functional relationship with him.

It is not as though the child's mental difficulties varied very widely. They are indigenous to the human mind when confronted by any given culture; hence (within that culture) the aids which meet them successfully have universal appeal. With all respect to the many who make it, the objection that specific objects can only be used in a specific way fails by failing to focus on what really matters, which is that these definite aids are so often needed for use in the right way. One does not abolish the clinical thermometer just because people are not always down with 'flu, and because it is only useful for taking temperatures.

At the same time, no one is obliged to take for granted either Seguin's profound first steps nor Montessori's manifold extensions of them, brilliant though they both are (indeed, I hesitate which to admire most); for the child himself is the ultimate authority, showing enthusiasm only if, and when, they meet his need. In just the same way the test tube, and not the text-book, is the ultimate authority of the chemist. And, just as in chemistry, it is perfectly permissible—though somewhat bold—to ignore Lavoisier and Dalton and start again with phlogiston, so here, one can ignore, if one wishes, all the triumphs already won. But the penalty of failure in this field is that one will either have to abandon education (as many in charge of the young do now advocate), or one will

¹ The editor reminds me that Montessori being no longer alone in this field, the exclusive use of her name may cause some surprise or seem propagandist. But although I would like to meet him I find it difficult to follow any other course. Montessori herself has always written under impersonal titles. "*Il metodo della Pedagogia Scientifica come è applicato nelle Case dei Bambini*" (italics mine) was a sufficiently modest title for what the English publisher vouchsafed to us as "*The Montessori Method*." "*The Advanced Montessori Method*" stands in the original Italian as "*L'Auto-educazione*." "*Psico-aritmetica*" and "*Psico-geometria*" have just appeared in Spanish and await translation. "*Psico-grammatica*" is promised but not yet printed. It is true that "*I Bambini Viventi nella Chiesa*" scrambled through as "*The Child in the Church*," and "*L'Enfant*," first published in French, has arrived relatively unscathed as "*The Secret of Childhood*." Yet the name, for all English readers, remains so symbolic (Rebecca West in the last war accused me of Montessori-ing the Army) that it would be difficult at this stage to start talking about "*the scientific school*" or "*the pedagogical laboratory*" without causing confusion, and even more surprise.

have to compel; and merely to compel (as do others) the individual instead of the group is no marked reform of education.¹

Indeed, to 'psychologise the material,' as Thorndike puts it, to correspond to a psychic and obscure reality, which is not one's own but that of the child, is a task so effortful, and requires so deep a transformation of all one's usual modes of thought, that this difficulty alone could account for its being one of the latest fields for the human mind to conquer. Let the doubter try for himself, or see the vain efforts constantly being made by new-comers, however intelligent. Even those who have served their apprenticeship, whom sad experience has taught how easily an apparently trifling change can alter an object liked by the children into one that they ignore, succeed relatively seldom. Yet nothing accepted by the children need ever be excluded from these schools, and acknowledgments are freely given. To think in terms not of fact but of development, this is the hard thing; to touch, however remotely, the hidden bifurcations and fusions of cognitions, following like a sleuth any clues the child may give, this is the nature of the new research. Truly it leads to an anatomy of knowledge, to an inner structure complex and interdependent, totally different from that emotional inner world explored so effectively by psycho-analysis.

Here, then, are to be learnt facts unobservable in the laboratory of experimental psychology, and unobservable in the clinic; just as facts to be learnt there are unobservable in the school. Perhaps a final judgment needs longer debate, but the writer, after many years' experience, believes that in these three spheres (the laboratory, the clinic, and the school) we have complementary sciences, each with limited objectives, yet each valid in regard to its own objectives. Should this be true it would follow that information coming from any one of these sources has as much scientific legitimacy as if it came from either of the others; and that, while specialisation in each is unavoidable, for the work is onerous, the specialists in each should cultivate at least a bowing acquaintance with the work of the others, and above all with the assumptions and justifications of their methodologies—especially when the latter have been fairly and squarely published, and are available to all. Otherwise, each stays moping in a corner, forming its own society and publishing its own journal, an undesirable consequence of breaking radically new ground.

VIII.—SUMMARY AND CONCLUSIONS.

(a) *In General.*—It would seem that the scientific world of our day is consciously, or unconsciously, constructing some kind of concept which might well be called a concept of normality in the child-adult relationship. It comes from the consulting room no less than from the schools; for the clinician faced with a breakdown, or with a difficult child, is constantly forced to appeal to the home—for what? For more understanding and less rigidity, for less anxiety about broken rules, less harshness to the offender against the time-table, more give-and-take about bed-time, and even in the performance of the physical function. All this means that a normality has been infringed and is somehow being restored; from an accumulation of offences against something we do not know there is coming a sense of what it is. A recognition of error implies the possibility of non-error, and the correction of errors outlines little by little the condition of their absence.

Nearly all the errors, moreover, come from intellect, or are supported by intellect. When we make them we are intelligent, but not intelligent enough. Stories could be told, given space, of more primitive peoples who do not need these correctives. But when, with an arrogant disregard for the weaker partner, with our own slave mentality emanating from the works, or even supported, as we think, by a materialistic hygiene, we begin measuring air by the cubic foot, proteins by the ounce, and time with a stop-watch, we destroy inevitably the pristine harmony, and twist the child-adult relationship out of its normality into a state of strain, with a predisposition to the ultimate snap, which too often takes place.

¹ The so-called method of 'individual work' and the Dalton Plan both resort to compulsion, but it is like herding individual sheep down separate lanes, instead of the whole flock down one lane. Montessori compels no one, neither individual nor group.

(b) *In application to child hygiene.*—Indeed, one of the greatest enemies of the little child is this hygiene purely of the body, which stands ever watchful like a warder, with a pair of scales in one hand and a chronometer in the other. Not that child-life has no rhythm of its own, for it has, but it is more like that of the birds and sheep, who can be found roughly at given places during each period of the day. This limited hygiene, blind to the few minutes grace that might make bed-going a pleasure, forgets that the work of growing-up is a creative activity, often an inspired activity; that in a world overrun by clocks it should make the child's clock somewhat elastic, that the merciless time-table is the enemy of the creator and friend only of the slave-driver. It may be useful in the factory, but your designer gets away from it!

It is high time that child-hygiene were re-written by psychologists, and the re-writing must take this direction: there is often involved not a choice between evils, but a choice between one good and another good. When the good of the body clashes with the good of the spirit, which should take precedence? This is the usual crux. Modern research truly shows that if the spirit is put first the body is invigorated. Put the body first and the spirit flags. In all decisions taken by the person on the spot this must be borne in mind. It is not the only factor, but a contributory one, in that delicate balancing of considerations which, just as in medicine, distinguishes the general recommendations of science from their daily application to individuals, which partakes of an art.

But, although much of this needs to be written, though many details remain to be filled in, we can say already that a norm does exist, that to know it more fully would be desirable, that to know and follow it quite fully would be a path to psychic health; and if psychic ills cause more misery than physical ills, then this must be the path to happiness. Perhaps no other single factor can be more important to the founding of the earthly paradise.

THE EFFECT OF PRACTICE IN INTELLIGENCE TEST RESULTS.

By DOUGLAS M. McINTOSH.

I.—Introduction. II.—Procedure. III.—Results. IV.—Summary.

I.—INTRODUCTION.

As an increasing number of education authorities use group intelligence tests for the purpose of selecting pupils for secondary education the reliability of such tests is of great importance.

Ferguson¹ has pointed out that confusion has existed on test reliability from the failure to observe the distinction between the reliability of tests and the reliability of persons. It would be generally agreed that mental abilities are not constant from day to day. Thus the accuracy with which a person's ability approximates to his 'true' ability is determined by the reliability of persons. Test reliability, on the other hand, measures the accuracy with which a test measures what it purports to measure at any given time. The reliability coefficient as measured by the application of the same or parallel forms of the test on different days is not only a measure of the constancy with which the test measures certain abilities but also a measure of the constancy of the abilities tested.

The reliability coefficient of group intelligence tests as measured by the above method generally lies between .8 and .9 and on occasions in excess of the latter figure. In a recent enquiry by the author 1,106 children were tested with Moray House Test 29, and nine months later by Moray House Test 32, and the correlation coefficient between the two sets of I.Q.'s was found to be .87. The children were a random sample of the whole age group except for a slight creaming off of the best as a result of the earlier of the two tests.

Where the same or parallel forms of a test are given within a short interval of time, practice effect comes into play. Several investigations have been carried out to determine the result of practice on intelligence test results.

Dawson² found that effect "is confined almost entirely to the results of exactly similar tests." He also emphasized the necessity of a practice preliminary test as five periods of practice have very little more effect than one.

A. G. Rodger³ from his investigation concluded that the I.Q. tends to rise from test to test, the rise per test being about half a point of I.Q. for children of I.Q. 80, one point for children of I.Q. 100, and one and a half points for children of I.Q. 120. The existence of a definite practice effect was also confirmed by H. McCrae⁴ who found that it may raise the median of a group by more than six points, although individuals are not consistent. It would appear that Rodger's conclusion has not been confirmed by other investigators, as W. G. Emmett, in an unpublished enquiry, found that there existed no apparent systematic relationship between practice effect and level of ability.⁵

¹ GEORGE A. FERGUSON: *Reliability of Mental Tests*, p. 9.—University of London Press, 1941.

² SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION, MENTAL SURVEY COMMITTEE: *The Influence of Practice on the Results of Mental Tests*. Unpublished Report, 1934.

³ ALLAN G. RODGER: "The Application of Six Group Intelligence Tests to the same Children and the Effects of Practice."—*This Journal*, Vol. VI, Part III, 1936, p. 291.

⁴ HUGH MCCRAE: "The Inconstancy of Group Test I.Q.'s."—*This Journal*, Vol. XII, Part I, 1942, p. 59.

⁵ GEORGE A. FERGUSON: *The Reliability of Mental Tests*, p. 82.—University of London Press, 1941.

II.—PROCEDURE.

The present enquiry was made with a view to establishing the effects of practice when a group of children sat the same intelligence test on six occasions at weekly intervals. Two groups, henceforth noted as Group A and Group B, were tested in this manner. Both groups were drawn from Primary V children in the same school, Group A consisting of thirty-eight children of average age twelve years, while Group B there were thirty-six children of average age $11\frac{10}{12}$ years. The Northern Test of Intellectual Ability was used to find the I.Q.'s.

III.—RESULTS.

The successive mean I.Q.'s of each group are shown in Table I.

TABLE I.
MEAN I.Q.'S OF GROUPS ON SUCCESSIVE TESTING.

Group.	Mean I.Q. in Tests 1-6.					
	1	2	3	4	5	6
A	106.6	113.4	116.7	117.8	117.8	117.3
B	104.4	112.0	113.6	113.3	114.7	114.7

It is obvious from the above table that there is a decided increase in the mean I.Q. on the second testing, but thereafter the mean I.Q. is practically stationary. The difference in the mean I.Q. between the first and second testing is statistically significant while the subsequent increases in mean I.Q. are not significant.

Rodger found also that a child's total range of I.Q. over the six tests averaged ten points, the highest range for any child being twenty-four. It is interesting to note in this experiment that the average range in the case of the two groups was 11.8 and 12.5 respectively, while the maximum for any child was twenty-four and twenty-five respectively.

There were no indications of any relationship between level of ability and practice effect, which is in agreement with Emmett's conclusions.

IV.—SUMMARY.

A group test of intelligence was set on six occasions at weekly intervals to two groups of primary school children numbering thirty-eight and thirty-six respectively. There was a statistically significant increase in the mean I.Q. between the first and second tests, but subsequent tests gave little or no increase in the mean I.Q. of the groups.

A child's range of I.Q. over the six tests averaged about twelve points in each case, and the maximum for any child was twenty-five.

There was no relationship between level of ability and practice effect.

A LIST OF RESEARCHES IN EDUCATIONAL PSYCHOLOGY AND TEACHING METHOD.

PRESENTED FOR HIGHER DEGREES OF BRITISH UNIVERSITIES FROM 1918
TO THE PRESENT DAY.

Classified according to Dewey's Decimal System by

A. M. BLACKWELL,
Department of Education, University of London King's College,

With a Foreword by F. A. CAVENAGH.

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(To be continued.)

J- 4901
22.3.50

SUMMARIES OF RESEARCHES REPORTED IN DEGREE THESES.¹

The Effects of School Training on the Use of Leisure after Leaving School.

By O. I. MORGAN.

Summary of a thesis presented for the degree of M.Ed. in the University of Manchester, 1942.

(1) AIM AND PLAN OF ENQUIRY.

The purpose of this investigation was to ascertain what use is made by elementary school girls after they leave school and enter employment, of the training in the use of leisure which they received at school.

The subjects of the enquiry were 102 girls who had attended a senior girls' school in a large industrial town from the age of eleven to the age of fourteen. The activities of the school which are designed to give training in the use of leisure include reading, drama, poetry, knitting, sewing, embroidery, housecraft, art, bookcrafts, swimming, games, country dancing, music, certain aspects of hygiene, geography and history lessons, and, to a lesser extent, of arithmetic and science lessons.

The girls' homes are in an area of working-class houses. With one exception the girls were in employment as follows: in needlework trades, 64; in office work, 15; shop assistants, 6; miscellaneous occupations, such as box-making, printing, manufacture of cotton, etc., 16; too ill to work, 1. Ninety per cent of the girls reached home at a time which enabled them to be free for leisure occupations from 7-30 p.m. during the week, whilst 80 per cent were free from 2-0 p.m. on Saturdays, and all of them were free on Sundays.

The organised facilities for the use of leisure are those provided by churches, e.g., brigades and clubs, and those provided by commercial enterprise, e.g., cinemas and dance halls, together with some provided by the municipality, e.g., swimming baths and tennis courts. The area in which the school and the homes of the girls are situated includes four open spaces, none of which is grass covered.

The enquiry was conducted by means of a lengthy questionnaire, supplemented by informal interviews. The 219 girls who had left school between Easter, 1939, and Easter, 1941, were invited by letter to answer the questionnaire. Of the 219 letters, thirty were returned unanswered as the girls could not be traced. Of the 189 girls who received the letter, 153 agreed to answer the questionnaire, thirteen refused, and twenty-three made no reply. In addition, six older girls aged 16-18 years offered to answer the questionnaire, and were allowed to do so. Thus 159 copies of the questionnaire were issued. Of these 102 were returned, practically all of the questions being answered in each case. The questionnaires were not answered anonymously. The ages of the girls who replied were as follows: forty-one aged fourteen years; thirty-six aged fifteen; twenty aged sixteen; four aged seventeen; one aged eighteen. The 189 girls who received the letter and the six who asked for copies of the questionnaire had been classified as follows while they had been at school:

<i>Division in school.</i>	<i>Answered questionnaire.</i>	<i>Did not answer questionnaire.</i>	<i>Total.</i>
A	42	20	62
B	38	47	85
C	22	26	48
	102	93	195

Thus it may be assumed that a greater proportion of the more able girls answered the questionnaire, a fact which makes some of the results more striking. In addition to the written replies, informal interviews were held with about fifty girls.

¹ These Outlines must be submitted through the Head of the Department in which the research was carried out,

A preliminary experiment with the questionnaire had suggested that it would be advisable as far as possible to provide typical answers from which the girls could select by underlining, and this was done. Typical items in the questionnaire were:

Q.: Have you any paints, etc., at home?

A.: (a) Yes; (b) No.

Q.: Do you read in your leisure time?

A.: (a) Very often; (b) Often; (c) Occasionally; (d) Seldom; (e) Never.

Q.: Did you enjoy reading or acting in plays at school?

A.: (a) Keenly; (b) Moderately; (c) Slightly; (d) Not at all.

Q.: What type of music do you like? (If the answer is more than one underline more.)

A.: (a) Dance bands; (b) Crooners; (c) Cinema organs; (d) Church organs; (e) Orchestras; (f) Singers; (g) Instrumentalists; (h) Choirs; (i) Community songs; (j) Hymns.

(2) RESULTS.

(a) Reading.

Out of 102 girls sixty-nine stated that they spent an hour or more daily in reading for pleasure. Sixty girls said they always had to read with other people in the room. Asked about their favourite type of story, sixty-nine girls mentioned love stories, sixty-seven mystery tales, and sixteen school stories. The 'favourite author' was Ruby M. Ayres (mentioned thirteen times), and the 'favourite book' was *Little Women* (mentioned seven times). Fifty-eight girls had no favourite author, and fifty-one had no favourite book. Each classic mentioned as a favourite book had been filmed and the story had been read as 'the book of the film.'

Seventy-six girls preferred the 'long, complete novel,' i.e., a story about 10,000 words in length, and forty-four preferred books. Ten girls had re-read stories read in school, and one had read other stories by authors whose works were first met in school. Twenty-four girls made use of the public library and three consulted the librarian in choosing books. The most general source of supply of reading matter was the weekly magazine, which is bought or borrowed from friends. Books were chosen 'by title,' according to thirty-one girls; 'by looking through,' thirty-nine; and 'by recommendation of friends,' thirty-two.

In the daily newspapers fifty-one girls read 'film news'; forty-two, 'news'; and twenty-four 'advertisements.' In the Sunday papers forty-eight read 'film news'; forty-one 'What the stars foretell,' and thirty-nine read 'news.' Other items were mentioned, but the above were the first three in each list of items.

In reply to questions about poetry, eight girls out of 102 said they could recall completely the words of a poem they had learnt at school (any poem, not a named one), and nine said they could recall the gist of a poem. Four girls said they read poetry for pleasure, and two that they listened to poetry on the radio.

(b) Dramatics and cinema.

Ninety girls out of 102 said they had enjoyed dramatic work at school, but no girl had joined a dramatic society on leaving school. Four girls had attended 'real life' performances on the stage, and fifty-two said they listened to plays on the radio. Eighty-three paid two or more visits to the cinema weekly.

The types of film mentioned as being first, second or third favourite were: mystery tales, mentioned sixty-seven times; comedies, fifty-four; love stories, forty-one. Films were chosen according to the players taking part in them in seventy cases; by title, thirty-four; and by recommendation of friends, twenty-six.

A summary of the replies about (c) *Needlework* gives the following results: since leaving school fifty-two girls out of 102 had made garments by knitting and sewing; twenty-seven by knitting only; eleven by sewing only; eight girls said they did embroidery in their spare time. Asked if they altered bought patterns to suit their own needs, fourteen said they did so in knitting, and eleven in sewing.

The question about (d) *Housecraft* gave the following replies: nineteen girls said they practised cookery at home and seven said they tried new recipes from magazines or books; seventy-three girls helped with the household laundry work; sixty-four mentioning ironing and eleven mentioning washing as processes they practised. Out of 102 girls, six said they never helped with the cleaning of the house.

In reply to questions on (e) *Art and craft*, twenty girls said they drew or painted pictures in their free time, and four said they did some form of craftwork. Forty-one girls had paints at home and thirteen had materials for crafts. Only seven girls out of 102 knew where to buy artists' materials. No girl had visited an art gallery after leaving school, and, although weekly

visits to a local art gallery had been paid during school life, only nine girls gave the name of a picture they could recall having seen in an art gallery.

(f) *Physical training.*

Of 102 girls, seventy-eight had passed a *swimming* test whilst at school, varying from the 25-yards 'learners' test' to the bronze medallion test of the Royal Life Saving Society. Thirty-five girls said they continued with swimming as a form of recreation after leaving school, but no girl had taken any swimming test.

Twenty girls said they went for country *rambles*, but none was a member of a rambling club, and no girl had ever stayed at a youth hostel.

In reply to questions on *dancing*, fifty-nine girls said they took part in ballroom dancing; twenty-nine went to a dance once a week; seventeen went twice; and two went three or more times. Sixteen girls attended public dance halls 'very often' or 'often.'

Twenty-six girls said they played *games* in their free time, 'rounders' being the favourite game. Two girls said they were members of a tennis club, and one girl said she played hockey. Five girls mentioned badminton and twenty-one mentioned table tennis as games they had learnt since leaving school. Net-ball, cricket and tennis were mentioned by twenty, nineteen, and fifteen girls respectively as games which they played, but further enquiry suggested that the games were informal play as no teams could be traced.

(g) *Music.*

Eighty-seven girls said they listened to *music* on the radio, and twenty-six said they selected from *Radio Times* the items they wished to hear. Thirty-four girls said they had recognised by tune or title music which they had heard at school in 'appreciation' lessons. The first three favourites in the list of types of music enjoyed were; dance bands, mentioned by ninety-two girls; cinema organs, sixty-two; crooners, fifty-seven.

Strauss was the 'favourite composer,' being mentioned by twenty-two girls. Sixty-eight girls gave no reply to the question on this subject, and thirty-six gave no reply to a question about their favourite piece of music. The choice of Strauss and the choice of many classical tunes named could be traced almost wholly to the music of the films.

Seventy-five girls said they sang for their own pleasure, and forty-seven said that they sang songs learnt at school. Five girls were members of a choir.

(h) Two girls had joined a *first aid* class on leaving school, but no other activity which might possibly have been influenced by hygiene lessons could be classed as a hobby.

(i) *Geography, current affairs, etc.*

Asked if they studied maps in the newspapers, eighteen girls said they did so; seven said they used a map in listening to the news on the radio; twenty-five listened to talks about other countries on the radio; twenty-five said they enjoyed travel films 'keenly'; thirteen said they enjoyed travel lectures; ninety-three girls said they would like to travel, the most popular countries being America, thirty-three votes; Canada, eighteen; and Australia, ten.

Eight girls said they had visited a museum since leaving school; twenty-four said they enjoyed historical films; and forty-six enjoyed the news reels; but there was no indication that they considered the latter to be historical films.

(j) *Arithmetic and science.*

In relation to *arithmetic and science*, sixteen girls said they kept a written account of the money they spent (a habit encouraged at school), and three said they checked household bills such as the gas account. Two girls said they had made baking powder at home, as shown at school in science lessons, and one girl said she had repaired an electric fuse. Five girls said they read articles or books about science.

(k) *Youth organisations.*

Out of 102 girls, four attended evening classes after leaving school; sixty-eight said they had attended Sunday school regularly whilst at school; but only twenty continued to attend after leaving day school. Eleven were members of church organisations, but no girl was a Sunday school teacher. Twenty-two girls out of 102 were members of some form of club.

(3) GENERAL CONCLUSION.

The general conclusion suggested by the investigation is that school training intended to influence the use of leisure after leaving school has little effect in this direction in the case of the girls studied. The writer's impression is that among the reasons for this are (i) a tendency on the part of the girls to repudiate things connected with school; (ii) a desire to escape from very drab surroundings; (iii) the appeal of commercial entertainments, coupled with a dearth of other attractions; (iv) a home environment in which concentrated activity is very difficult; (v) a school life which is too short for training in the use of leisure to have lasting effects.

BOOK REVIEWS.

The Training of Teachers in Universities: by R. A. C. OLIVER. (University of London Press, Ltd., pp. 59, 3s. net.)

This is a valuable contribution to a problem which is very much a matter of unsolved controversy at the present time, and Professor Oliver discusses various alternative arrangements with commendable fairness and objectivity, and faces difficulties frankly. Yet, in a sense, the discussion is premature, for we still await the McNair Report, and we are on the threshold of educational changes which are likely to affect the demand for teachers on a scale never before realised.

Thus, if the present grants offered to intending teachers are replaced by an extended system of scholarships awarded unconditionally, Professor Oliver's conception of planning the whole of the university course with teaching as the career in view will not be realised. For the increasing tendency of our young people is to defer the choice of a career, and some will defer the choice, if they may, until they have graduated. This is much more likely to be the case if his proposal to award a B.Ed. degree is adopted, thus virtually imposing a choice indirectly. Nor is the argument from medicine and other professions, which require an early choice and are entered by a specific degree, wholly convincing: questions of financial prospects and social status have a disturbing effect on such analogies. Teaching is not yet rewarded on the same scale.

What kind of demand will the new Bill create? Professor Oliver gives figures showing that four-fifths of the students of the Manchester University Education Department take 'honours' degrees, while from one-third to one-half become teachers in elementary schools. He quotes the Director of Education for Durham County, who calculates that seven-tenths must go to elementary schools. If we also are to meet the plea of the Norwood Report for the return of the form-master system in the grammar schools, and supply the new modern secondary schools with non-specialists, it is clear that the overwhelming demand for a number of years to come will be for general practitioners. Professor Oliver admits that "too many students who are not scholarly-minded at present take honours courses they are not particularly fitted for." Those who have seen the disproportionate growth of honours courses in the last twenty-five years, and the disintegration of the pass course, may be tempted to put Professor Oliver's admission more strongly. There is an urgent need for the overhauling of university courses, and for a vigorous reinstatement of the status of general studies.

A third point is the difficulty of knowing whether Professor Oliver's alternative of a five-year course is practicable when so serious a shortage of teachers is here. Three-quarters of the present supply of teachers comes from the two-year training colleges and the inadequacy of the period is universally admitted. Their claim for a year's extension must be satisfied before that of the universities can be expected, yet it would reduce the present supply by one-third.

These uncertainties in no way reduce the value of Professor Oliver's book, which raises issues that must take a long time to settle. He has covered a wide field in small space, and drawn attention to matters which have been too seldom discussed. Especially commendable are his pleas for the renewed education of teachers, for the wider contacts of the staff of a department of education, and for the promotion of educational research.

F.S.

Conscience and Society: by RANYARD WEST. (London: Methuen and Co., 1942, pp. 260. 15s.)

The sub-title of Dr. Ranyard West's interesting and 'thought-provoking' book is "A study of the psychological prerequisites of law and order." This strikes the keynote.

Justice cannot be done in a very brief review to Dr. West's original treatment of a very involved series of topics. Also the general subject is beyond the scope of this journal. But Dr. West has divided his volume into three main parts, each of which is treated in a scholarly way. In the first he takes 'human nature' in its social relationship as his topic, and considers very thoroughly aggressiveness in our social lives. The second deals with the control of human nature by law and the ascendancy of man's social instinct, maintained through law, over his self-assertiveness. This treatment leads to an examination of international law and prepares for the third section, which applies our present knowledge of human nature to world problems of social organization with an analysis of loyalty. The book is well documented and illustrated by many of the author's case studies.

Education for Democracy: by MARGARET COLE. (London: Geo. Allen and Unwin, Ltd., and Fabian Society, pp. 70. 2s.)

This very belated review of this interesting and stimulating pamphlet appears at a time when much discussion is taking place on its subject matter. In her own inimitable way Margaret Cole deals with such topics as *The Essentials*, *A Minimum Curriculum*, *Begin at the Top*, *What Kind of School*, *Examinations*, *Teachers*, and *Values*. Readers of this little book will be able to participate in discussions on the Education Bill with a supply of ideas on one side of the many questions involved.

The Psychology of Cultural Change in Painting. British Journal of Psychology, Monograph Supplement, No. XXVI: by R. W. PICKFORD. (Cambridge University Press, London, pp. 62. 8s. 6d.)

In this monograph the author examines the influences exerted on painters and their work by social and traditional factors, and the influence which the leader and subordinate members of a group of painters exert on the work of the group, on the general development of the art, and on society. Part of the original manuscript has been separately published in the *British Journal of Psychology*, XXX, pp. 197-210, under the title "Social Psychology and Some Problems of Artistic Culture."

After the general theory has been outlined in the introductory chapter, it is examined in Part I, "A Study of Groups and Individuals," in relation to a number of groups of painters; Chardin, Goya, Daumier and Cezanne; the Barbizon painters of whom Corot was the leader, together with the related Glasgow group; the Pre-Raphaelite, the Mogul Miniature, and, before 1900, the Russian painters. On this and other evidence, including on pp. 50 and 51 interesting references to the parallel influences effective in the world of music, the author in Part II, "The Psychology of Cultural Change," classifies the various ways in which the influences which are exerted on and by painters and painting take effect. The results of group contact, of 'borrowing' and of 'grafting,' that is, the deliberate imposition of one form of art or culture on to another, are analysed, as are the factors which promote constructiveness, the persistence or conservation of some cultural forms, and, rather more tentatively, those which lead to decline and decay.

It is a small point of criticism, but the method of treatment has imposed on the study a probably unavoidable but rather tiresome degree of repetition. J.M.

Blue Print for a Common School: by W. KENNETH RICHMOND. (London: Geo. Routledge and Sons, Ltd., pp. 184. 8s. 6d. net.)

In his Preface the author of this book, who is Lecturer in Education at St. John's College, York, says: "To-day, for the first time in its history, the nation finally begins to feel passionately about its schools." He further maintains that although people may differ about the causes of social maladies they are agreed that the only medicinal treatment capable of removing them is education, with to-day various popularly accepted slogans, including 'A Common School.' It is with the common school that the author is concerned, for he maintains that 'the demand for priority' is for the primary school.

One has a glimpse of his main contention if one notes the chapter headings of Part I, two of them being The Importance of Intellect and The Importance of Instinct. Part II develops the idea of The Evolution of the Activity School, and Part III deals with A Junior Common School.

The author has carefully chosen his material and has written an interesting book which will be welcomed as a contribution towards the solution of some primary school problems.

Social Studies and World Citizenship: by L. J. F. BRIMBLE and F. J. MAY. (Macmillan, pp. xii+158. 6s. net.)

All those engaged in any active form of education, whether in Youth Club leadership, in W.E.A. work, or in teaching in any kind of school, could rely on finding valuable suggestion in this inspiring little book, the aim of which is to provide those who have long wanted and worked for educational reform with "clear ideas on the forms these changes should take." Amongst its many merits are its practical commonsense, its frankness, and its emphasis on the close relation which must exist between a reformed educational system and a reformed social order.

The first four chapters deal respectively with World Citizenship, Psychological Problems Involved (in teaching the social studies), World Democracy, and the Government of the Community. Of the following chapters, in which specific problems and studies are discussed, those relating to religious instruction, sex guidance, and the arts are particularly good. The writers are advocates of a closer fusion of history and geography in the school curriculum, and of the suitability of Esperanto as an international auxiliary language. The book includes an adequate index of six pages. J.M.

Sane Psychology: by R. J. S. McDOWALL, M.D., D.Sc. (John Murray, pp. xii+275. 9s.)

This revised edition of *A Biological Introduction to Psychology*, which was reviewed in last February's *Journal*, shows alteration. It is a little more biological and betrays some evidence of wider reading of non-medical psychologists. But, remaining superficially potted and presenting no coherent viewpoint, the book may well be dangerous in the hands of an otherwise uninstructed medical student.

Charity bids us assume that *cogito, ergo sum* and its sad mistranslation (p. 104), "education in correlates" and "primordial tendencies" (both given as quotations from Spearman on p. 249) are mere lapses, but there are other confusions which can be due only to misunderstanding or misinformation; for example, it is suggested (p. 157) that Stevenson's exile in Samoa was a social escape, and the discussion of instinct in Chapter III shows some strange aberrations.

The fairly comprehensive bibliography suggests the hope that those whose first introduction to psychology comes from this book will hasten to go further afield for their fundamental notions.

W.D.W.

Redbrick University: by BRUCE TRUSCOT. (Faber and Faber, 191 pp. 10s. 6d.)

Although primarily concerned with the universities of Birmingham, Bristol, Leeds, Manchester, Reading and Sheffield and written "exclusively from the point of view of the arts faculty of such a university, and of the arts subjects studied at Oxford and Cambridge," this lively and outspoken book should be read by teachers in other faculties and universities also, for its discussion of "the idea of a university" and of the relationship of research and teaching will interest all. It should be read, not skimmed, for occasionally it compels attention by provocative over-statements or simplifications which are not modified and corrected until later.

Some of the argument is weakened by Mr. Truscot's necessarily limited experience of the seven universities under discussion. These are already diverse in character and organisation, and some have long ago solved problems, especially of administration, which seem still very urgent in "Drabtown." This may account for the wide difference between Mr. Truscot's picture of the tutorial system and what one knows of its working in history, literature and philosophy. His defence of lectures may be somewhat over-enthusiastic, but what can be done with the tutorial system and of the strong under-lying reasons for its persistence, he does not know that one honours schools in Arts at Birmingham have used the system for over twenty years, and that it was a desire, by undergraduates who saw it at work, for the adoption of that system in other departments which led to the 1936 inquiry and report he frequently quotes.

But this inevitable limitation in no way impairs the value of Mr. Truscot's courageous analysis of those handicaps under which all the modern universities are labouring.

I.A.S.

Education in World Ethics and Science: by SIR RICHARD GREGORY, F.R.S. (Watts and Co., pp. viii+40. 2s.)

This eloquent, learned and supremely logical statement of the value of ethical teaching in schools maintains the high level of Conway Memorial Lectures. Scientific humanism which trains the mind while leaving it unshackled in its approach to right living, the ethical virtues of all high religions, and the contributions of free thought to moral progress, are impartially set over against sectarian obscurantism which is again, under the stimulus of war, trying to batten on education. Sir Richard Gregory's brief packed paragraphs sound the challenge of rational sanity in the vexed discussion of religious teaching in our State schools.

Young Children in War-time in a Residential War Nursery: by DOROTHY BURLINGHAM and ANNA FREUD. (George Allen and Unwin, Ltd., pp. 81. 1s. 6d.)

One hundred and twenty children studied in the Hampstead Nurseries form the evidence for the generalisations of this booklet. Although unquestioned Freudianism and lack of controls vitiate some conclusions (notably on pp. 42, 50-51, and 65), there is much of practical interest to those concerned with the mental welfare of the pre-school child.

NOTICE TO SUBSCRIBERS.

Owing to the strict limitation in the number of *Journals* that can be printed, and the necessity for ordering ahead from the printer, subscribers are advised to send in their orders as early as possible in January so that delivery can be ensured.

NOTICE TO MEMBERS OF THE SOCIETIES.

Owing to a great increase in the demand for the *Journal* during 1943 it has been found impossible to supply some late 1943 subscribers with the February and June numbers. If any members of the Societies do not wish to keep these parts (and they are still in good condition) we should be willing to buy them back at the rate proportionate to the subscription paid by the Society for members of the Education Section, which would be 2s. 6d. per copy. We are also now out of stock of November, 1942, *Journals*, and copies of this part would be welcomed. Copies should be sent to the Managing Editor, THE BRITISH JOURNAL OF EDUCATIONAL PSYCHOLOGY, The University, Edmund Street, Birmingham, 3.

PSYCHOLOGICAL AND SOCIOLOGICAL PRINCIPLES FOR THE REORGANISATION OF SECONDARY EDUCATION.

By A. PINSENT.

I.—*The proposals of the White Paper analysed.* The most probable distribution of pupils in the suggested secondary school system: (a) the social class structure of English educational organisation; (b) the new situation proposed in the White Paper and the new problem; (c) what determines school curricula? : (i) the curriculum as 'liberal' studies; (ii) successful activity and the inheritance of intellectual capacity; (iii) the curriculum as vocational preparation; (iv) vocational potential and secondary education; (v) significant differences between higher and lower intellectual levels; (d) the actual distribution of intellectual capacity in the adolescent population. II.—*Curricula and teaching methods appropriate for secondary modern schools:* (a) school-work and life-work; (b) unity, diversity and the transfer of training. III.—*Summary.* Note.—A reply to possible criticisms.

I.—THE PROPOSALS OF THE WHITE PAPER ANALYSED.

WHETHER or not it was so intended, the White Paper on Educational Reconstruction¹ marks a critical stage in English educational policy. It proposes to abolish elementary schooling and to develop a national system of compulsory post-primary education for all children, thus introducing a new situation into English educational practice. It seems desirable therefore to attempt to translate the generalities of the official document into practical detail in order to estimate the difficulties likely to be implied. Twice within living memory opportunities for expanding post-primary education have been misused mainly owing to the persistence of tradition, namely, in the case of State secondary schools in 1902, and of the so-called central schools in 1911. These schools were developed on grammar school lines in too many cases, and now there is a danger that the proposed changes in our post-primary system may be the old system re-labelled with new names.

The present time seems opportune for an analysis of our post-primary education. The economic and social framework of the country has been severely shaken by the impact of two world wars. Our future prosperity will depend upon political and social unity of purpose, and a high standard of technical efficiency both in industry and agriculture. Also we have now at our disposal much psychological and sociological knowledge of an experimental kind relevant to the educational situation, of which school masters and educational administrators have, in many cases, taken far too little heed. Two problems in particular need immediate analysis: the first concerns the probable distribution of pupils in secondary schools assuming the conditions proposed in the White Paper, and taking into account the probable future trends in economic and social organisation. The second concerns the training of teachers for the proposed 'modern' schools. The first of these problems will be considered here; the second in a subsequent paper.

In what follows I shall use 'secondary' as equivalent to 'post primary,' and I shall neglect the practical details of organisation. Whether the new schools are organised as multi-lateral institutions or as separate grammar, technical, or modern schools does not affect the sociological and psychological principles involved. We shall probably have to make many improvisations and compromises with history, and, in any case, it is not likely that the same formula for organisation will be equally effective in both town and countryside. The most important matter now is to get our objectives clear.

(a) *The social-class structure of traditional English educational organisation.*—The essential principle of traditional English educational organisation was aptly described in the Spens Report . . . "that class idea of education which held the field in England till the end of the nineteenth century. Education was envisaged in terms of social classes.

¹ H.M. Stationery Office, Cmd. 6458, 1943.

There was to be one education for the less affluent class, another for the middle classes of society, and a third for the upper classes. There was *no machinery for passing from one grade to another*, though a boy of exceptional ability might succeed in doing so. The type of education which a boy received depended on the wealth and social position of his parents."¹

(b) *The new situation and the new problem.*—Now, we are told, this state of affairs is to be changed. According to the White Paper, "the Government propose to recast the national education service. . . . After the age of eleven years secondary education of diversified types *but of equal standing* will be provided for all children" (page 3). A further proposal is even more significant: fees are to be abolished on the ground that "a system under which fees are charged in one type of post-primary school and prohibited in the other offends against the canon that *the nature of a child's education should be determined by his capacity and promise and not by the financial circumstances of his parents*" (p. 7, par. 20). (Italics mine.)²

Our problem can be stated now more explicitly: assuming the canon of capacity and promise, do we need one type only, or more than one type of secondary education? In 1902 the first alternative was accepted but after some forty years of experiment, patchwork, and compromise, it seems obvious that the one-type system has failed. Its results have been summarised with devastating candour in the Norwood Report, the authors of which can scarcely be accused of revolutionary irresponsibility. They say that the traditional curriculum was founded upon a now outmoded conception of a liberal education; its psychology is unsound; it is organised chiefly as a preparation for a university career although only a small proportion of the pupils will go to a university; it is congested and confused; it has not sufficient connection with the life and interests of the pupils; the acquisition of information is given too much importance; a premium is put on memorisation; power of judgment remains untrained; second-hand opinions pass for knowledge (see p. 10). Altogether a formidable condemnation. The Committee go on to state, however, accurately, I believe, that the grammar-school-for-all policy has failed not so much on the ground of any intrinsic demerit of the schools or their curriculum, but rather because this type of education is unsuitable for a proportion of the pupils who have found their way into it (see p. 12).

The fact is that the grammar schools have catered, adequately, only for a limited number of academically-able pupils. But now, if the proposals of the White Paper are seriously implemented, the whole adolescent population *down to the intellectual level of the just-not-certifiably-feeble-minded* will come *compulsorily* into secondary education. I am certain that people accustomed only to education of the grammar school and university type have no notion at all about what this change implies. Historical precedent will not help us much in this case. There is none. The only alternative to grammar school education which some people can envisage is a preparation for some specific trade which is, in their estimation, no education at all.

We have to consider what alternative types of secondary education are required, and the corresponding curricula and teaching methods. Only by some analysis of this problem can we arrive at a reasonable policy for reorganisation. The key to the solution will be found, I believe, in the *relation between general intellectual capacity and level of difficulty of the work required to be done*.

(c) *What determines school curricula?*—Individual learners do their school work for a variety of reasons: interest in the subject-matter and activities; ambition to get on in life; desire for self-expression; or just plain compulsion. On the other hand, the organised curriculum of a school system is determined in the first place, and mainly, by the economic and social needs of dominant groups in the community; and, to a very much less extent, by contemporary notions of the principles of human development and welfare.

¹ *Secondary Education*.—H.M. Stationery Office, 1938, p. 32.

² I do not forget, of course, that these proposals are carefully restricted to schools administered by local authorities. Nevertheless, to have this canon stated explicitly in an official publication is an event of some importance. It is the essential specification for education in a free society.

(i) *The curriculum as liberal studies.*—Let us begin with the notion of school studies as a medium for a liberal education. As I understand it, this concept in its more modern usage implies that the proper purpose of a satisfactory education is to foster the optimum development of human beings. Education should cultivate desirable qualities of body, mind, character, and personality. Unfortunately, in its historical evolution in Western Europe, this concept appears to have got mixed up with class distinctions, and with theological and ecclesiastical views about intellectual and spiritual discipline. Consequently the so-called liberal studies have been identified, in practice, with classics and certain parts of pure mathematics; and these studies have been presented to the pupils in such a way as to require the greatest intensity of sheer intellectual application while offering the least possible attraction in terms of human interest. Moreover, this kind of work has been separated from and set over against technical training which has been despised as mere preparation for a menial occupation and deemed not to be education at all, properly so-called. These views and attitudes still persist in influential quarters.

How then should we conceive a liberal education? Most people would agree, I believe, that whatever other results may accrue from a satisfactory education, we must require as an aim the development of a stable well-balanced personality successfully adjusted to the society in which the person must live. This statement needs some qualification in detail to allow for the initiation of desirable changes in social organisation but it is broadly true. In that case we have to take account of attitudes and discipline even more than of knowledge and skills, since attitudes and discipline determine what uses will be made of the knowledge and skills. The present condition of Europe is proof enough of that.

Discipline is, perhaps, the least well understood of these educational aims. It is more than social order. We cannot identify it with mere obedience to a set of arbitrary rules or customs. Used either in an intellectual or a moral context it implies a condition of internal harmony among the impulses and modes of expression of a personality. Antagonisms of impulse and expression are liable to arise in the best regulated personality, and it can be shown that the over-riding influences facilitating self-control are well-developed self-respect and self-confidence. It is important for our purpose to note that modern studies of personality indicate that the essential condition for an adequate degree of self-respect and self-confidence, and therefore of personal stability, is *successful activity*.

Successful activity arouses feelings of satisfaction, security, confidence and optimism. These feelings encourage physical and intellectual adventure and initiative, and acceptance of social responsibility. On the other hand, persistent failure arouses feelings of insecurity, frustration and humiliation. These lead to anxiety and despair, to refusal of initiative and responsibility, and to withdrawal from social participation. The human organism craves the satisfaction of success. If this is persistently denied self-respect either does not develop or is lost. If otherwise not obtainable the satisfaction will be sought in substitute activities often of an anti-social kind, but owing to pressure of public opinion these activities even if successful tend to produce feelings of guilt which intensify the feelings of insecurity and anxiety. Unless this vicious cycle is broken at some point the inevitable result is, at best, a warped bitter person hating himself and society; at worst, a 'nervous breakdown.' All this is now common knowledge, demonstrated time after time from the case-books of medical and other psychologists, but curiously unheeded by many schoolmasters.

The resistance against this evidence and its educational implications is so great in some quarters that a proviso is necessary to prevent misinterpretation. It is not claimed that a pupil must always be completely successful immediately he takes up any task. What is claimed is that he shall have been successful sooner or later on sufficient occasions in the past to induce sufficient confidence in his powers to succeed again in the future if he applies himself seriously.

Thus it appears that one necessary condition for a liberal education, in the meaning usually accepted in curriculum discussions, is that *the pupil shall be able to master his work*. Even if the frustration due to failure is not severe enough to cause a breakdown, it will tend to produce so strong an aversion to the subject-matter or activity as to make the

pupil attempt to avoid further work if possible, by fair means or by foul, and such 'dodging' cannot be held to promote desirable qualities of mind, character, or personality.

(ii) *Successful activity and the inheritance of intellectual capacity.*—It seems beyond reasonable doubt that people are born as varied in their intellectual capacity as in physical build. True, improved housing, feeding, and exercise produce marked improvements in mental output as well as physical growth. But, in any random sample of the population optimum conditions of nurture equally available to everybody do not produce equal physical or intellectual results. Drugs like thyroxin may have a profound effect on intellectual development in some, but there is no evidence that the continued administration of thyroxin will produce unlimited results. It seems that overdoses of thyroxin, instead of being artificial means of rearing geniuses, merely lead to another kind of breakdown. These facts reinforce the everyday observation that equal amounts of training and exercise produce in different pupils unequal amounts of intellectual output and attainment. In other words, hereditary endowment puts an upper limit on intellectual capacity.

We seem to be driven to the conclusion therefore that the educative effect of school studies, particularly with respect to the development of attitudes and discipline and to a liberal education, depends not only upon the nature of the subject-matter but also upon its degree of difficulty in relation to the individual's upper limit of intellectual capacity. We can agree that school studies should be sufficiently difficult to require serious and persistent effort, but we are not justified in making difficulty as such the criterion of educative value. Educative difficulty is that which arouses *successful* effort. Hence, not even classics, or pure mathematics, are media of a liberal education unless we also specify sufficient intellectual capacity in the pupils for successful mastery. And successful mastery does not mean just scraping through an examination. It means experiencing a sufficient degree of enjoyment and personal satisfaction in the exercise—a very different matter.

It may be objected that I have ignored the factor of interest and motivation. There is no doubt that enhanced interest leads to marked increase in intellectual *output*. But, again, there is no evidence for supposing that if every pupil is motivated with optimum intensity all will reach the same *level* of attainment, either in amount or in difficulty. In addition, it is too frequently forgotten that a *very powerful component in interest is the experience of success in the exercise*. It is just as true that ability generates interest as it is that interest generates ability. Confirmation of this view has been provided by an investigation made by R. A. Pritchard.¹ He analysed 8,273 questionnaires concerning the subject-matter preferences of secondary school pupils. He found evidence of two types of interest in school work: (a) the subject-matter is itself interesting (content interest); (b) activities occasioned by the subject-matter may be interesting although the content is not (activity or power interest). In the second case the one reason given for liking or aversion which outnumbered all others was that the pupil in question could do the subject satisfactorily, or found it too difficult. Incidentally, the subjects most often mentioned which aroused and depended on this type of *activity* interest were arithmetic, algebra, Latin, and physics.²

Hence, my first general conclusion is that if we accept the view that heredity imposes an upper limit upon intellectual capacity, and that different individuals have widely different upper limits, then we must also accept the implication that school work cannot be fully educative unless it is organised in accord with the upper limits of intellectual capacity of the prospective secondary school pupils.

(iii) *The curriculum as vocational preparation.*—Two primary determinants of secondary school curricula are economic need and social prestige. The nation must have enough people trained in all the essential kinds of work required to keep the national economy going at a sufficiently high level of efficiency; and each social group demands that its children shall acquire the knowledge, skills, attitudes, manners, necessary either for remaining in the most desirable social positions, or for getting into them at the earliest possible opportunity. In spite of much special pleading to the contrary, there can be

¹ See this *Journal*, Vol. 5, 1935, pp. 157 and 229.

² Precautions were taken to minimise the effect of liking or aversion for a particular teacher upon attitude to the subject-matter.

no doubt that the traditional grammar school curriculum was vocational in both these respects. It was a technical training in the tool studies for universities and the learned professions. It was vocational in the wider meaning of the term since it was, and still is, extremely difficult or impossible to enter some of the most desirable professions and positions of government in this country without the special set of conventions and clichés obtainable only at the appropriate schools.

Now suppose that a child's education will really be determined by his capacity and promise; suppose further that entry into any profession or occupation whatever will be the reward of merit and not the result of family influence or school of origin; then, will any occupation or position of responsibility be equally available to every pupil? The correct answer would seem to be 'no,' particularly in a free society, since not so many 'duds' would get through in that case. Again, the limiting factors are the upper limits of intellectual capacity coupled with temperamental traits. Even in a democracy, or rather *because of the democracy*, allocation of young people to different vocational levels will depend, in the long run, on their capacities. Hence, in so far as secondary school curricula are connected with vocational preparation, each adolescent in a free society will get the training most appropriate to his highest potential vocational capacity.

What levels of vocational preparation are likely to be required? If we insist, as we ought, upon a high standard of material culture for the whole population then we shall need a greatly increased output of both manufactured goods and agricultural products. It is likely therefore that modern trends in production will be maintained and even intensified. Three such trends are significant for our purpose in both industrial organisation and government:

- (a) Increasing application of scientific knowledge to affairs of all kinds, making necessary a more adequate grounding in pure science and technology, and in studies instrumental to these (such as mathematics and languages) for all candidates for such occupations as doctor, soldier, architect, engineer, agriculturist, works manager, Civil Servant, teacher.
- (b) Increasing *range* of economic activities both in variety and in geographical distance; increasing rapidity of international communication; increasing industrial potential required by mechanised warfare. These changes are leading to increases in the size of an economically effective and defensible region (e.g., the American Continent, Soviet Russia, possibly a federated Europe). This trend makes necessary increasing co-ordination of activity and central control of policy, which means a corresponding complexity of organisation in civil government, military affairs, economic production, and distribution. These trends require that the people responsible for the administration of the enlarged regions will need more adequate training in law and procedure, economic and political theory, actuarial mathematics and statistics, sociology, anthropology, social psychology, languages. The time has passed when administration can be the happy hunting ground for classical scholars or aristocratic amateurs no matter how great their native aptitude and/or personal charm. In this connection it is significant to note some recent additions to university courses.
- (c) The increasing standardisation and mechanisation of the details of industrial production and distribution, with a decreasing need for creative imagination, special knowledge, and extended training in the workpeople. Present war conditions will enormously increase the rate of this trend owing to the urgent need for unskilled men and women workers in both munitions and agriculture. Any increase in co-operative farming will tend to produce agricultural 'factories' with increasing mechanisation and specialisation of farm work.

Thus it appears that we may expect to an increasing extent a state of affairs in which more sheer intellectual ability and technical training will be required at one end of the vocational scale and less of the same qualifications at the other.

(iv) *Vocational potential and secondary education.*—Thus the next problem appears to be on what basis must we organise secondary education from the point of view of

vocational preparation. The traditional distinctions between pure and applied knowledge, and between liberal and vocational preparation, have now only doubtful validity, e.g., certain language studies when used in historical investigation are just as 'technical' as mathematics and physics applied to engineering. Moreover, if and when all secondary schools have parity of conditions, and when occupations to which a higher technical education leads have a social prestige comparable to that of the 'professions,' then we shall see a beginning of the end of the process of guiding all the ablest pupils into a grammar type of education and all the handymen into the technical schools. The supposition that the Almighty compensated the intellectual duffers by making them especially clever with their hands is not borne out by experimental evidence. The technical schools as they get parity of amenities *vis-a-vis* the grammar schools will demand parity of intellectual capacity and educational attainment in their pupils. The distinction between a grammar and a technical education is likely to be based on practical convenience rather than on any other criterion.

But, it may be argued, pupils will be allocated on the basis of special talents. Some will have a flair for working with mathematical symbols; some with words; some with machines. Others may have a special talent for music or art. Undoubtedly; this is borne out by psychological investigation. This argument, however, fails to distinguish sufficiently between special talents and *general* intellectual power. In deciding the type of occupation in which a given pupil is most likely to succeed the first criterion must be the level of his general intellectual capacity. Only when this is comparable to the level of difficulty of the tasks will special talent indicate the most satisfactory choice of occupation at that level. The situation has been summed up very aptly in a report on vocational guidance:

"Once a child's intelligence has been assessed an important step has been taken towards selecting his vocation. The range of choice now open to him becomes confined within narrower limits. The principle is obvious. The degree of intelligence which the child displays debars him from success in such higher occupations as would call for more intelligence than he possesses, and at the same time makes it foolish for him to seek lower occupations, such as could be carried out by others less intelligent than he. Take, for example, such work as shorthand and typewriting. In an investigation carried out by the Institute (of Industrial Psychology) it was found that in a certain office the few typists having a mental ratio below 105 failed to give satisfaction even in the mechanical work of copying; clerks with a mental ratio above this level but below 120 could do routine typing satisfactorily but failed in the speed and accuracy of their shorthand, and in spelling and display; clerks with a mental ratio between 120 and 135 made excellent shorthand typists and the brighter could compose business letters on their own initiative; clerks with a mental ratio above 135 were usually promoted almost at once to more responsible work or else became discontented if kept on simple routine work. So for other occupations. For nearly every one there is a lower limit of intelligence below which the employee is likely to fail, and an upper limit beyond which he is likely to find his mental powers only partly absorbed by the duties of his post and consequently running to waste."¹

While it might be possible to question the exactitude of the limits of mental ratio stated in this extract, the principle remains broadly true and is confirmed by daily observation. If it is argued that statistics about mental inheritance are not reliable, my reply would be that individual differences are facts of everyday experience. Statistics demonstrate that some components of intellectual capacity are *general*, that is, whoever shows intellectual power and initiative to a high or low degree in one type of situation tends also to show it to a higher or lower degree than average in other situations. Since differences in capacity are more varied than differences in environment (e.g., members of the same family) we must assume that hereditary factors are involved. This is also inherently probable in view of what we know of biological inheritance in general.

Hence my second main conclusion is that in so far as the conditions proposed in the

¹ *A Study in Vocational Guidance*.—Industrial Fatigue Research Board, Report No. 33, 1926.

White Paper are realised, then the distribution of pupils in secondary education will be made to an increasing extent according to level of *general* intellectual capacity. If we adopt the nomenclature of the White Paper it seems likely that the grammar and technical secondary schools (or departments) will take the intellectually abler adolescents, while those on the average or lower intellectual levels will be guided into the secondary 'modern' schools.¹

(v) *Significant differences between higher and lower intellectual levels.*—At this stage it seems desirable to be somewhat more explicit about the nature of the levels of intellectual capacity. Traits of character and temperament will, of course, modify the successful application of intelligence and therefore must be taken into account. However, the aptitudes which make high intellectual ability possible seem to be apprehension and organisation of perceptual and logical relationships between the objects or situations observed or thought about. In particular, the most important aptitudes for higher education are those concerned in logical abstraction and symbolic forms of expression. Everybody who talks, writes, or calculates at all uses abstractions and symbols. At the lower intellectual levels, however, they are less subtle and complex, and appear rather as accompaniments of practical experience and as means of social communication. At the higher levels they are used to an increasing extent as the *vehicles of thought*, the practical experiences being discarded except occasionally when required as illustrative examples for expository purposes, or for confirming conclusions arrived at theoretically. Without going into fine distinctions it seems that the fundamental criterion of selection of pupils for secondary education must be the pupils' powers to profit by a theoretical and linguistic as opposed to a practical type of work. I believe this to be true in the regions of music, craftsmanship, and pictorial art. There we find the same contrast between practical knowledge with routine skill and creative ability, and for the same reason. It is not suggested that there is a sharp line of distinction at some particular and arbitrary intelligence quotient. Rather is there a steady gradation of power from high to low intensity, and any practical demarcation will be a region, rather than a line.²

(d) *Actual distribution of intellectual capacity in the adolescent population.*—If this argument is correct so far, it becomes a matter of urgent importance to estimate the relative proportions of adolescents at the various levels of intellectual capacity. For this purpose most of the surveys already made are not at all suitable. They include only certain selected groups of the population, e.g., elementary school pupils. We need estimates based on representative samples of the *whole* population. In Scotland such an estimate was attempted by the Council for Research in Education. With a verbal-pictorial group test they measured all children born in Scotland in 1921.³ For purposes of comparison 1,000 of these pupils were tested individually by means of the Binet scale. The authors estimate that at the highest possible interpretation less than 30 per cent. of this national group have I.Q.'s of 110 or upwards. The most probable proportion is about 28 per cent. Now an I.Q. level of 110 is usually considered rather low for a full secondary curriculum which includes mathematics, classics, modern languages (and perhaps Latin), and theoretical science, that is for a grammar or secondary technical school curriculum. It appears, then, that if the canon of capacity and promise is seriously implemented, *at least 70 per cent. of the adolescent population must be accommodated in the secondary modern schools or departments.*⁴

¹ See Professor Burt's paper.—This *Journal*, Vol. XIII, Part III, 1943, pp. 129-134.

² In view of the White Paper proposals and modern needs we require a good deal more systematic investigation into the lower limits of general intelligence which, together with given character and temperamental traits, are required for successful participation in various kinds of in-school and out-of-school work at different levels of difficulty.

³ See *Intelligence of Scottish Children*, particularly pp. 41, 96, 105.

⁴ This result was supported by the investigation of Gray and Moshinsky. They tested some 10,000 children in elementary, central, secondary and private preparatory schools in the London area. Unfortunately they used an Otis Group Test and gave their results in terms of Index of Brightness which makes it difficult to compare with I.Q. statistics. These authors estimate that 25.5 per cent. of their sample attained an Index of Brightness of 120 or over; 58.4 per cent. from 70 to 119; and 16.1 per cent. below 70. See J. L. Gray, *The Nation's Intelligence*, for a summary of the results.

I do not think that the implications of these results have been grasped in terms of secondary education for all. There seems to be a strong tendency to suppose that if only we put all children into a good school they will all automatically become clever scholars. I shall have more to say later about the argument that even if the grammar school cannot teach every pupil Latin and mathematics it can at least teach him manners. That is not a good argument for putting everybody into a grammar school, at least, not in a democratic society.¹

II.—CURRICULA AND TEACHING METHODS APPROPRIATE FOR SECONDARY MODERN SCHOOLS.

I have now set out what seem to be inescapable implications of the White Paper proposals in relation to the facts of human endowment, and of our probable future economic and educational needs. We next must consider what type of curriculum is needed for adolescent pupils of the average and lower levels of intellectual capacity (that is, some 70 per cent. at least of the population) and *in what form* the school work must be organised and presented.

The argument will have to be set out in summary and rather dogmatic form. It is necessary to state it, however, in view of the importance of the problem with respect to teacher training. The success of any reorganisation of secondary education will depend, ultimately, on the efficiency of the teachers concerned, and in particular on the clearness with which they envisage their objectives and the confidence with which they attack the new educational situation. We need to re-define a *general* education in terms of a non-grammar pre-technical régime.

The present situation is a bewildering medley lacking unity of purpose and co-ordination. The needs of the pupils concerned are met by a variety of schools and departments: higher tops; central, senior, trade and junior technical schools; farm institutes, evening classes, day continuation schools; and, in addition, by the non-examination forms of the orthodox secondary schools (in which so many pupils waste much of their time until they leave, becoming more and more bored and apathetic in their attitudes and less fitted for any social and economic participation). This situation has arisen partly out of false social values, and partly in response to local demands for courses supplementary to the short elementary training, and alternative to the grammar school curriculum. The position is, and will continue to be, be-devilled by the clamour of interested 'pressure groups,' some demanding specific training for trade processes; others wanting party-political or denominational-religious views; and the traditionalists who seem incapable of thinking of culture and education except in terms of classical and historical studies.² The clamour has already begun, and needs to be resisted both on educational grounds and for reasons of social unity and efficiency.

(a) *Schoolwork and lifework*.—What are the conditions and requirements of industry? The trade and technical needs of this group of adolescents are represented by such occupational categories as skilled artisan; housewife (also a skilled occupation!); distributive and clerical worker, including minor Civil Service grades; agricultural worker; general labourer; a very varied list, in detail. No one school can cater for all these. Even the more skilled of these occupations call for practical acquaintance, address, and dexterity

¹ Another illuminating example of the trends discussed above has been provided by Professor Burt. See *Occupational Psychology*, October, 1943, p. 9. He says: "The popular ignorance of the limitations imposed by children's innate capacities is shared by many of the business men (who answered an educational questionnaire). The educational shortcomings of the school-leaver are nearly always put down to the school. One employer says: 'This firm draws its younger employees principally from three or four secondary schools in the neighbourhood. Twenty years ago we could rely on getting youngsters who could write a decent hand, express themselves in decent English, and make out simpler accounts without arithmetical mistakes. . . . This is no longer the case. Surely the teaching in these schools has rapidly deteriorated during the last ten or fifteen years.' The official reports for his area show that, although the population has not appreciably increased, the number of children obtaining free places at secondary schools has more than doubled. It seems likely that the schools to which the critic refers must now be descending to a much lower level of ability to get these augmented numbers."

² See, for example, Sir Richard Livingstone's recent excursions into educational discussions: *The Future of Education and Education for a World Adrift*.

rather than theoretical knowledge. In many cases the processes involved are trivial ; they can be learned with good training methods in a short time ; they are best learned on the job. Further, we shall need *adaptability* in the future even more than specific technical ability. Rapid change is likely to be the rule rather than fixity in economic conditions. To maintain full employment and progressive prosperity—an essential condition for social security—we must have greater mobility of labour. The workpeople must not only be able to learn and re-learn as quickly as possible, but they must be *willing to do so*. This attitude is more likely to be found if they understand the inescapable economic reasons for the change of occupation or activity. Again, it is unwise to attempt, even indirectly, to fix the adolescent's choice of occupation before the age of fifteen or sixteen,¹ and not every village child wants to be, or is fitted to be, an agricultural labourer. Thus, even in the secondary modern schools, we need the emphasis on *general* education rather than on specific trade training, for both educational and economic reasons.

What are the requirements of social and political unity ? The canon of successful participation is as important in the social and political development of the adult as it is for the education of the adolescent. We cannot separate the worker as a 'hand' from the worker as a social and political being without grave risk to our communal welfare. Democratic government will have to be extended from political into industrial government if we wish to avoid the dangers of a robot society organised by bureaucrats. This extension cannot be made successfully unless the common man and woman is interested in, and responsive to, political and industrial policy and organisation ; skilled in the procedures of representative government ; and trained in the attitudes required.

Thus in terms of curriculum we need the following items :

The tools of learning and communication—speech, reading, writing ; simple calculation—the elements of measurement and mathematics ; current affairs—the groundwork of geography, history, and economics ; elementary applied science—some physics, chemistry, botany, zoology ; physical training, hygiene, deportment, dancing, games ; cultivation of practical interests, responsiveness, and initiative, that is, of perceptual and emotional sensitivity by means of craftwork, art, and music ; cultivation of social and civic manners and attitudes, and good discrimination in public affairs.

These are our minimum requirements. We have to include most of a normal curriculum. That being so, it follows that the distinguishing characteristics of the secondary modern schools will be found not in the content of the curriculum but in the *level of difficulty* of the work, and the *form* in which it is organised.

(b) *Unity, diversity and transfer of the effects of training.*—Consider this problem of form. Here we encounter the question of the transfer of the effects of training. The school curriculum must be understandably connected with the out-of-school life and work.² The adolescents themselves will demand that. How can the connection be secured ? Experiments in psychology suggest that there must be a *recognisable* similarity between the in-school and out-of-school work. Historically, there have been three main ways of securing this connection, namely, teach all the items of knowledge and skill the pupil is likely to require at any time later ; teach just those items which will be most immediately and frequently required ; teach abstract principles and logical 'elements' of the widest possible theoretical application. Of these plans, the first is nowadays impossible ; the second is too restrictive and tends to stereotype both pupils and society ; the third is practicable only for pupils of high intellectual capacity and resolute character. Only they can master and *apply* the work. Also, it is notoriously uninteresting since the studies are stripped of their factual content. The first two plans lack the unity of aim and purpose which is the counterpart of unity of thought and personality. The third plan secures a formal unity of subject-matter but is often quite beyond the comprehension of pupils of average and lower intellectual capacity. What then can we do ?

¹ Some people are protesting because the Board of Education attempts to fix the choice of teachers before their university degree courses are completed !

² It is often forgotten how closely connected both in content and form is the grammar school curriculum with university entrance examinations and degree courses.

The answer must be sought in the way in which these latter pupils think. They can and do plan with some foresight ; reason, often shrewdly, about what interests them ; and act morally ; but they do so *in terms of practical experience and familiar situations*. For example, many people who would find it difficult or impossible to frame exact verbal logical definitions, proof against dialectical analysis, of such concepts as justice, equity, property, can easily distinguish between just, generous, or mean actions in a familiar social or economic context. Many pupils who would be bewildered and exasperated by formal discourses on the logic of inductive inference can be taught to appreciate some rules of 'straight thinking' and even to estimate relative probabilities if the subject-matter is relatively easy and the examples are taken from familiar practical situations.¹

If, however, we teach by the use of activities organised in the form of familiar practical situations, how can we secure the desirable unity of aim and purpose in the studies ? Mediæval thinkers sought to solve this problem by insisting on the 'spiritual' purpose and unity of both schoolwork and world affairs. Some people are now trying desperately to restore this unity. But the notions of 'spirit' and 'spiritual' urgently need re-definition. They contain implications which appear incompatible with present-day knowledge and attitudes.

The 'new synthesis' we seek may be found, I believe, in a wider concept of vocation. Vocational training must be held to include a positive training for the good life as well as for the technical requirements and standards of a specific trade process. This important principle has been recognised and aptly stated by the Norwood Committee, but, characteristically, only in connection with the teaching of art. They say (*Report*, pp. 126-127) : " Apart from training in (executive) skill there is, we suggest, a much broader field of art education . . . encouragement of the boys and girls to see with seeing eyes, to be aware of form and colour and design . . . all children should have the opportunity of seeing the place of art in the spiritual and social and economic life of the present and the past . . . In appreciation of the environment there may be found a link which can join up various forms of art teaching and give them unity, as, for instance, architecture, and town planning, and interior decoration." My contention is that if this is good for art it is equally good for all the other activities of the curriculum, most particularly for the secondary modern school pupils.

The Norwood Committee restrict their blessing on this plan to the teaching of art, probably on account of the fetishistic worship of studies for their own sake. However, even at the grammar and technical high school level this phrase is ambiguous and the process beset with social dangers. At the level of the secondary modern school it is quite inappropriate.

This extension of the concept of vocation means that we estimate civic taste, civic manners, good social discrimination, and ability in the arts of government as *skills* equal in value to the skills of reading, writing, calculation, and tool-using, to be taught with the same systematic care and graded exercises as we give, normally, to these academic or technical attainments. When that valuation is recognised clearly and applied seriously the old distinction between liberal and vocational training disappears.

Thus we seem to arrive at the conclusion on both psychological and sociological grounds that the most satisfactory way of organising studies for the secondary modern schools is according to some modification of what is called the 'topical' method. This involves breaking down exclusive special subjects. Instead of formal history, geography, economics, we need an introduction to current affairs ; instead of formal specialised pure mathematics, physics, chemistry, botany, zoology, we need an introduction to current problems of applied science as these are met in factory, foundry, craft-workshop, farm, or household ; instead of formal grammar and linguistic 'discipline' we need reading and communication for information required in personal and public affairs, and for enjoyment. Instead of specialised routine trade skills we need practical acquaintance with the proper use and maintenance of common tools and machines, and the confidence and initiative which comes from the mastery of the applications of drawing, tools, and craft processes to local woodwork, metalwork, building, farming, gardening, housecraft, and so forth.

¹ This, by the way, is true of some university students.

This plan may also help to bring about the desirable co-ordination of the present medley of non-grammar pre-technical schools. It is possible to organise upon this plan all the types of schools, mentioned at the beginning of this section, which cater for pupils up to the age of fifteen years. They could all be called secondary modern schools (or some other convenient common title). Keep the title 'technical' secondary or higher schools for institutions giving specialised technical courses on a par with full grammar school courses. Let all the secondary modern schools provide a practical 'topical' training of the kind summarily indicated here. The training would be technical in that it would be closely connected with local economic conditions and requirements. *The practical activities and situations of the local region could be used as the medium of instruction.* But the aim of the instruction at this level would be liberal, i.e., the cultivation of interests, the forming of judgments, the encouragement of initiative, and desirable social attitudes in the pupils rather than the inculcation of specific trade standards and skills.

I do not claim that this is easy. A good deal of experiment is required to get the details clear. Yet the plan is being carried on at the present time successfully in certain schools. The greatest difficulty lies not in the plan but in getting teachers with the necessary outlook and practical qualifications. The majority of teachers are the products of grammar school conditions and training. This brings us to the problem of the cultural preparation and professional training of secondary modern school teachers and the organisation of training college curricula. This I hope to discuss in a subsequent paper.

NOTE: A REPLY TO POSSIBLE CRITICISMS.

Two objections may be made against the fundamental proposition in the above argument :

First : It is not legitimate to accept estimates of general intellectual capacity obtained by the use of standardised tests of general intelligence.

Second : Even if we can accept the present available estimates of the distribution of general intellectual capacity it is not legitimate to make any plans for educational organisation upon them since a considerable proportion of our present-day child population lives below the optimum level of nutrition, housing and general social conditions, and cannot therefore realise fully its potential intellectual capacity. If standards of living are raised intellectual attainment will be raised also.

To this it may be replied :

First : Standard tests have been standardised, ultimately, whether explicitly or implicitly, by reference to judgments of observers upon children's responses and abilities in school and every-day life. And, when temperament factors are controlled, the test results correlate significantly with the results of other types of estimate.

Second : Suppose that we assume that parentage has no significant connection with intellectual capacity. This assumption is almost certainly incorrect but let us make it. Suppose, in other words, that environmental conditions determine levels of intellectual attainment. It is possible in that case to get some approximate estimate of the change in distribution of intellectual attainment which might be expected to follow a rise in the general standards of living for the whole population to the level now enjoyed by fee-paying pupils in secondary, private, and preparatory schools in the London area.

Gray and Moshinsky, in the investigation already mentioned (p. 90), found the following distributions :

<i>Index of Brightness.</i>	<i>All Free Pupils.</i>	<i>All Fee-paying Pupils.</i>
120 and above ..	23.7%	49.5%
70 to 119	59.4%	45.2%
69 and under ..	16.9%	5.4%

Thus the probability is that even in the most favourable conditions we shall be faced with some 50 per cent. of the adolescent population in the middle and lower ranges of intellectual attainment. Moreover, this consideration is relevant only to long-term social and economic change. While the optimum standard of living is in the process of being reached by the whole adolescent population we must deal with conditions as we find them now, and as they are likely to be found for some considerable time in the future.

III.—SUMMARY.

(1) The new proposals mean that *all* adolescents will come within the secondary school system. Experience has shown that the grammar type of schooling is not suitable for all adolescents. Therefore we need to organise alternative types.

(2) School curricula are determined by (a) contemporary conceptions of human development and welfare, and (b) economic requirements. So we can consider curricula from the point of view of liberal studies, or vocational preparation.

(3) Studies must fail as media for liberal education if the pupils have not sufficient intellectual capacity to pursue them with success and satisfaction. Difficulties and effort are educative only if they stimulate ultimately successful activity. Therefore liberal education can be defined completely only with reference to the level of intellectual capacity.

(4) Present-day and probable future trends call for increasingly high levels of competence and technical training for managerial functions, and for decreasing levels for the rank-and-file workers. The vocational potential and corresponding training of any pupil *in a free society* will be determined by upper limits of intellectual capacity. Vocational guidance and selection are based upon this principle.

(5) For secondary education, the significant differences between higher and lower grades of intellectual capacity appear to be facility in the use of abstract concepts and symbols as vehicles of thought, and consequently, ability to profit by a linguistic and theoretical treatment of subject-matter.

(6) Available surveys of the *total* adolescent population indicate that rather less than 30 per cent. reach I.Q. levels of 110 and upwards. It would seem therefore that we should be prepared to organise alternative courses for some 70 per cent. of the present and near-future adolescents, this being the proportion which is not likely to profit fully by the complete grammar and secondary technical curriculum.

(7) All forms of education must be related, in ways which the pupils can understand, to out-of-school life and needs. This means that the alternative courses we require must include a range of studies equivalent to the normal secondary curriculum without classics, foreign languages, advanced mathematics, and more theoretical science. But the subject-matter must be organised in the modern schools, or departments, through practical activities similar *in form* to those with which the pupil will have to deal in everyday life, and at a level of difficulty commensurate with the upper limits of intellectual capacity of these pupils.

(9) It is essential to secure the intellectual and æsthetic unity of the curriculum. This may be done by extending the concept of vocation, and relating the adolescents' studies and activities to the civic life of the local region. Civic taste, and abilities in the arts of local government, should be accounted as skills at least equal in value to academic and technical skills, and fostered accordingly. Distinctions between liberal and vocational education would tend then to disappear.

(10) To carry out this reorganisation of secondary education efficiently requires a reorientation and reorganisation of the cultural preparation and professional training of teachers for the modern schools.

ATTITUDES TO RELIGION AMONG ADOLESCENTS AND ADULTS.

By F. E. MORETON.

Introduction. I.—*The attitude scale.* II.—*Distribution of adults' questionnaire.* III.—*Consideration of replies:* (1) *Attitudes to religion and to the church;* (2) *Kind of religious education advocated;* (3) *Age of discontinuing church attendance.* IV.—*The questionnaire for adolescents and results.* V.—*Questionnaire to teachers.* VI.—*Some points bearing on religious education.* VII.—*Summary of results and conclusions.*

INTRODUCTION.

FOR many months past there has been a spate of speeches, articles, and letters concerning religious education. Often they ignore the fact that only a small proportion of the population 'belong' to any church or show any real interest in organised religion. On the other hand, an article by Dr. Brew, in the *Times Educational Supplement*, revealed the surprising fact that young people in public houses frequently talk about religion and kindred subjects; in fact, Dr. Brew found it was the second most frequent topic. Apparently the young people have little time for what usually passes for religion—what, in fact, the churches offer them—but they have at heart a sneaking wish or belief or idea that 'there is something in it.'

I.—THE ATTITUDE SCALE.

This enquiry was an attempt to obtain new light on the attitudes to religion of adolescents and adults. It is impossible to deal here with the merits or otherwise of 'attitude testing.' Much has been written on the subject,* but perhaps all that is necessary here is a brief account of the method. A number of statements on the subject are prepared and people are asked to indicate whether they agree or disagree with them. From this it is possible to obtain a numerical score for each person. In the scale used for this enquiry persons could obtain scores ranging from plus 60 to minus 60, plus indicating in favour of religion and minus against. Many objections to this method can be made. The commonest perhaps is that merely saying 'yes' and 'no' to short dogmatic statements does not really give the person's opinion, and people want to give reasons for their beliefs. There is no space to argue this point, but two things may be said: first, expressions of opinion are at least as likely to be genuine as the reasons given, in fact, some psychologists would say more likely, since rationalisation is so common; secondly, the results of attitude scales have shown the method to be reasonably reliable. In this enquiry the adolescents' questionnaire gave a reliability coefficient of .89 (p.e. .020), calculated by correlating odd items with even.

II.—DISTRIBUTION OF ADULTS' QUESTIONNAIRE.

The following questionnaire was distributed by the kindness of *Mass Observation* to their 1,400 part-time 'observers' (i.e., persons who regularly send in to *Mass Observation* replies to their 'directives'). The 414 'observers' who replied included 258 males and 156 females, of many and various occupations, and with ages ranging from 17 to 77. It is impossible to say whether this is a fair sample of the population or not. In educational level and probably in intelligence it is almost certainly above the average. There is no reason to suppose, however, that the method of distribution introduced any factor specifically religious (or anti-religious). It is true that Table IV shows a preponderance in favour of religion. On the other hand, Table III shows that the majority of those replying seldom or never attend church.

*See, for instance:

LICKERT: *Technique for the Measurement of Attitudes.*

L. SWEET: *Measurement of Personal Attitudes in Younger Boys.*

THURSTONE AND CHAVE: *Measurement of Attitude.*

The following table shows the types of school which the 'observers' say they attended in their youth.

TABLE I.

SHOWING ANSWERS TO THE QUESTION: "WHICH OF THE FOLLOWING KINDS OF SCHOOL DID YOU ATTEND IN YOUR YOUTH: (a) COUNCIL ELEMENTARY; (b) CHURCH OF ENGLAND ELEMENTARY; (c) GRAMMAR SCHOOL; (d) STATE SECONDARY SCHOOL; (e) PRIVATE SECONDARY SCHOOL; (f) PUBLIC SCHOOL; (g) ANY OTHER?"

	(a) Council.	(b) Church.	(c) Grammar.	(d) State S.	(e) Private S.	(f) Public.
Men	95	41	56	86	29	69
Women	40	16	20	46	54	19

Private Preparatory 13 men, 3 women.
 Technical School 12 men, 2 women.
 University 14 men, 7 women.
 Roman Catholic Schools 4 men, 5 women.

QUESTIONNAIRE I.—FOR ADULTS.

It is strongly hoped that many persons will answer the following questionnaire, *whatever their attitude*. Most of the questions can be answered by one word, or by underlining, but added comments are invited.

Religion is to be understood in a wide sense—any genuine religion, Christian or otherwise; a personal experience rather than membership of a religious body.

Age Sex (M. or F.) Occupation

Which of the following kinds of school did you attend in your youth: (a) Council Elementary; (b) Church of England Elementary; (c) Grammar School; (d) State Secondary School; (e) Private Secondary; (f) Public School; (g) Any other (specify) ?

Do you attend Church: (a) Regularly; (b) Often; (c) Seldom; (d) Never ?

If you do, what denomination ?

If not, at what age did you stop attending ?

If you can give a reason, please do so

Do you think that children in schools should receive: (a) Denominational religious teaching; (b) Undenominational religious teaching; (c) Teaching in many religions; (d) No religious teaching at all?

Would you describe your attitude to religion as: (a) Strongly in favour; (b) Moderately in favour; (c) Neutral; (d) Moderately against; (e) Strongly against ?

On the same scale, what is your attitude (a, b, c, d or e) towards the *Church*? (i.e., *any Church* institutional religion) ?

Opposite each of the following statements write 'yes' if you agree with it, 'no' if you disagree with it. If you agree or disagree very strongly, put a circle round yes or no. If you cannot agree or disagree, put a dash —. Accept or reject each item as a whole.

- (1) Religion makes people live better lives.
- (2) Religious parents make unhappy homes.
- (3) Religious teachers make happy schools.
- (4) In war-time religious people are more cruel than others.
- (5) Religious people are more inclined to be self-righteous than others.
- (6) If Governments were made up of religious people, the laws would be more just.
- (7) Religious people seem to me less truthful than others.
- (8) In spite of mistakes, religion has throughout history kept alive the spirit of truth and freedom.
- (9) Religious people give way to fear more than others.
- (10) Religion may be necessary for those who live by feeling, but not for those who have learnt to use their intelligence.
- (11) Without religion, human life is aimless and pointless.
- (12) Religion, by teaching that man should submit himself to the will of God, is an instrument of oppression in the hands of unscrupulous authority.

- (13) Religion has been put into man's soul by God.
- (14) As far as I am concerned religion does not exist.
- (15) Religion is an essential part of man's being.
- (16) Man invented religion because he was afraid of the forces of nature.
- (17) Religious people are more charitable than others.
- (18) Every thinking man has some belief in a divine Creator.
- (19) Religion is to life as frills are to a dress.
- (20) Religion is a great obstacle to real progress.
- (21) The highest ways of living are those taught by the great religious leaders.
- (22) Deep religious conviction is the only thing that can withstand such evils as fascism.
- (23) All religions are superstition.
- (24) Religion has a good influence on business.
- (25) True education must have a religious basis.
- (26) Religion has no significance for the world to-day.
- (27) Religion makes people more tolerant.
- (28) Religion has a bad influence on politics.
- (29) Religion is a great enemy to scientific truth.
- (30) The only abiding power is spiritual.
- (31) True prayer is always answered.
- (32) Baptism is essential for salvation.
- (33) Infant baptism is a help to the child only through its effects on the parents.
- (34) Prayer to an all-wise and all-powerful God is absurd.
- (35) People who receive Holy Communion receive at the same time the Holy Spirit.
- (36) Prayer is of value only because of its psychological effect.
- (37) Infants who die unbaptised go to everlasting punishment.
- (38) Prayer is a substitute for action.
- (39) The Lord's Supper is only a symbol, and conveys no blessing in itself.
- (40) Prayer is harmless but useless.
- (41) Baptism is a useless rite.
- (42) The practice of Holy Communion is often harmful.
- (43) Prayer is communion with God.
- (44) I believe that the Bible is all literally true.
- (45) The Bible is inspired, but not infallible.
- (46) The Bible is no more inspired than any other great book.
- (47) The Bible is the greatest book of religion.
- (48) All parts of the Bible are not of equal value.

The first thirty statements composed the 'scale.' The remaining items were included in order to obtain information on related topics.

III.—CONSIDERATION OF REPLIES.

(1) *Attitudes to religion and to the church.*—The following table shows the scores obtained by the 258 men and 156 women who replied to the questionnaire. Actual numbers are given, and scores are grouped in tens. For instance, one man and one woman obtained a score between plus 50 and 60, three men and three women received scores between 40 and 50, and so on.

TABLE II.

Actual Numbers.	Plus Scores (Favourable to religion).						Minus Scores (Unfavourable to religion).					
	60	50	40	30	20	10	0	10	20	30	40	50
Men	1	3	21	48	47	42	26	27	28	13	2	
Women	1	3	10	31	30	22	18	17	15	8	1	
TOTALS	2	6	31	79	77	64	44	44	43	21	3	

Average score +5.3.

It will be seen that the general tendency is moderately favourable to religion. The scores of the women are very similarly distributed to those of the men.

Tables III, IV, V, and VI show the answers to the preliminary questions.

TABLE III.

SHOWING ANSWERS TO THE QUESTION: "DO YOU ATTEND CHURCH REGULARLY, OFTEN, SELDOM, OR NEVER?"

	<i>Regularly.</i>	<i>Often.</i>	<i>Seldom.</i>	<i>Never.</i>
Men	51	35	82	92
Women	20	20	47	50
TOTALS	71	55	129	142

Again there is little difference between the figures for men and those for women. Both show a considerable majority who attend 'seldom' or 'never' (men, 66 per cent.; women, 70 per cent.). Quite a number of the 'seldom' class attend only on special occasions, such as a National Day of Prayer or for some social reason.

TABLE IV.

SHOWING ANSWERS TO THE QUESTION: "WOULD YOU DESCRIBE YOUR ATTITUDE TO RELIGION AS: (a) STRONGLY IN FAVOUR; (b) MODERATELY IN FAVOUR; (c) NEUTRAL; (d) MODERATELY AGAINST; OR (e) STRONGLY AGAINST?"

	(a)	(b)	(c)	(d)	(e)
Men	90	69	36	31	26
Women	58	37	29	20	9
TOTALS	148	101	65	51	35

Here again the distribution of the women's replies is very similar to the men's. This table gives a different impression from Table II. People's estimate of their attitude to religion is more strongly in favour than their detailed answers. The most probable explanation is that to many the detailed questionnaire was taken to refer sometimes to religion as they conceived it at its best, and sometimes to the church. This is borne out by many of the remarks made.

TABLE V.

SHOWING ANSWERS TO THE QUESTION: "ON THE SAME SCALE WHAT IS YOUR ATTITUDE (a), (b), (c), (d) OR (e) TOWARDS THE CHURCH?"

	(a)	(b)	(c)	(d)	(e)
Men	45	53	41	52	45
Women	24	33	32	24	28
TOTALS	69	86	73	76	73

(2) *Kind of religious education advocated.*—

TABLE VI.

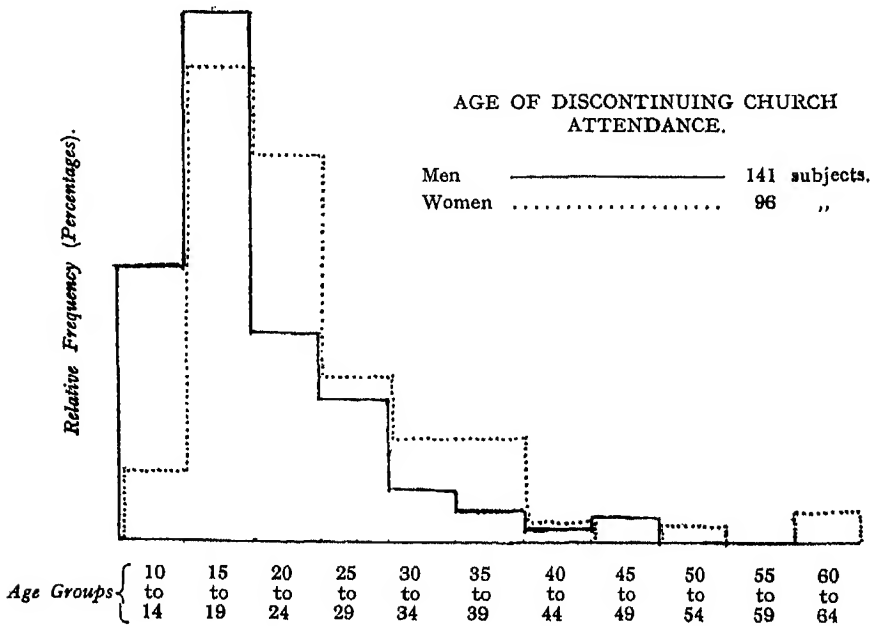
SHOWING ANSWERS TO THE QUESTION: "DO YOU THINK THAT CHILDREN IN SCHOOLS SHOULD RECEIVE: (a) DENOMINATIONAL RELIGIOUS TEACHING; (b) UNDENOMINATIONAL RELIGIOUS TEACHING; (c) TEACHING IN MANY RELIGIONS; (d) NO RELIGIOUS TEACHING AT ALL?"

	(a)	(b)	(c)	(d)
Men	22	101	119	40
Women	17	72	63	28
TOTALS	39	173	182	68

This table is rather surprising in view of Table III. Only a small portion (14 per cent.) think that children should receive no religious teaching at all. A larger proportion (37 per cent.) consider that children should be given undenominational religious teaching, and a still larger number (39 per cent.) advocate the teaching of several religions. A very small number (8 per cent.) advocated denominational teaching; of these, eight were Roman Catholic (four men and four women), twenty-four were Anglican (thirteen men and eleven women), three Society of Friends (all men), and one Methodist. It is an interesting point that four of the Anglicans who advocated denominational teaching never attend church themselves, and three have negative scores (i.e., against religion).

(3) *Age of discontinuing church attendance.*—Fig. 1 shows the age at which church attendance was discontinued.

FIG. I.



It will be seen that the commonest age period for discontinuing is between 15 and 19 for both sexes. More males than females stopped attending earlier than this (18 per cent. compared with 5 per cent.); a larger percentage of females stopped in the age group 20 to 24. A small number reported that they stopped "on leaving school" or "as soon

as compulsion was removed," but these remarks would apply also to many who gave their exact age, so no exact number can be given.

Among the commoner reasons given for this stopping of church attendance are the following (actual numbers) ;

(1) Loss of faith	74
(2) Loss of interest	49
(3) Dissatisfaction with religious people, especially church members (hypocrisy is the most frequent fault mentioned)	14
(4) Lack of reality in worship	14
(5) Too much religion at school	10
(6) Home duties, marriage, etc.	10
(7) Disgust with organised religion	8
(8) Not satisfied with doctrines	7
(9) Pointlessness of services	7
(10) Churches' support of war	6

The following table gives the average scores given to the items. It will be clear that if all subjects marked an item 'yes' the average score would be plus 2; this is therefore the maximum value, the minimum being minus 2.

TABLE VII.

Item.	Score.	Item.	Score.	Item.	Score.	Item.	Score.	Item.	Score.	Item.	Score.
(1)	+ .37	(9)	- .59	(17)	- .27	(25)	+ .08	(33)	- .03	(41)	+ .23
(2)	- .48	(10)	- .30	(18)	- .29	(26)	- .65	(34)	- .28	(42)	- .20
(3)	- .16	(11)	+ .05	(19)	- .70	(27)	- .42	(35)	- .41	(43)	+ .36
(4)	- .54	(12)	+ .36	(20)	- .30	(28)	- .28	(36)	+ .12	(44)	- 1.26
(5)	+ .44	(13)	+ .05	(21)	+ .62	(29)	- .16	(37)	- 1.59	(45)	+ .30
(6)	- .23	(14)	- .75	(22)	+ .33	(30)	+ .41	(38)	- .51	(46)	+ .11
(7)	- .65	(15)	+ .30	(23)	- .50	(31)	- .27	(39)	+ .51	(47)	+ .31
(8)	+ .21	(16)	- .09	(24)	- .17	(32)	- 1.12	(40)	- .53	(48)	+ .83

It must be noted that a large number of 'dashes' may make an average score unreliable. A dash is supposed to indicate that a person cannot agree or disagree with the item. As a rule this indicates neutrality, but not always. It may, for instance, indicate that the person considers his experience and knowledge insufficient to give any other reply. In the three average scores which are larger than unity, however, the number of dashes is relatively small; it is given in parentheses. These scores are:

No. 37 .. (Infants who die unbaptised go to everlasting punishment.)

Average score - 1.59 (11).

No. 44 .. (I believe that the Bible is all literally true.)

Average score - 1.26 (18).

No. 32 .. (Baptism is essential for salvation.)

Average score - 1.12 (51).

Only two 'yes' replies were given to No. 37. One of the two has this comment: "Since baptism is ordinarily necessary for salvation and an infant is a member of the human race, we know that he needs baptism and will not attain the beatific vision of God without it. Without having merited by actual sin the pains of hell, his taint of original sin will exclude him from Heaven. At the same time, we have no idea what special graces God, who will have all men to be saved, may give to the dying unbaptised infant in order that he may attain Heaven, for God is richer in mercy than in severity. Yet as this is outside His covenant, we cannot presume upon it." Both of these replies were from Roman Catholics. All other Roman Catholics (13) just marked the item 'no.'

IV.—THE QUESTIONNAIRE FOR ADOLESCENTS.

A questionnaire for adolescents, consisting of fifty-eight items extracted from other adolescents' essays on religion, were sent out to 200 teachers, belonging to many types of

school—public elementary, secondary (including some private schools), boys' public schools, girls' public schools, co-educational and single-sex schools.* The teachers were asked to write the statements one at a time on the blackboard, and to ask the young people to write down their answers ('yes' or 'no') on a piece of paper. Replies came from 354 adolescents. It is not possible to say exactly how many of each sex, or how many from each kind of school, since this information was not always given on the replies, which were, of course, anonymous. There were replies from all the types of schools mentioned above, and at least 106 were from girls. Not all gave their ages, but those who did were distributed as follows:

11 years of age	.....	8	young people.
12	„	30	„
13	„	57	„
14	„	59	„
15	„	45	„
16	„	42	„
17	„	20	„
18	„	2	„

The attitudes are shown on Table VIII.

QUESTIONNAIRE II.—FOR ADOLESCENTS.

A.

- Age of Child*.....*Sex*.....*Kind of School* (Elementary, Secondary, Church, etc.)
- (1) Do you go to church: (a) regularly; (b) often; (c) seldom; (d) never?.....
 - (2) Why?
 - (3) Do you go to Sunday school: (a) regularly; (b) often; (c) seldom; (d) never?.....
 - (4) Why?
 - (5) Will you go to church when you are older?.....
 - (6) Why?
 - (7) Do you say prayers: (a) regularly; (b) often; (c) seldom; (d) never?.....
 - (8) Why?
 - (9) Does your mother go to church: (a) regularly; (b) often; (c) seldom; (d) never?.....
 - (10) Does your father (in peace-time) go to church: (a) (b) (c) (d)?.....

B.

Opposite each of the following statements if you agree write 'yes,' if you think it is wrong write 'no.' If you neither agree nor disagree put a dash —. If you agree or disagree very strongly you can put a circle round yes or no.

- (1) Religion makes people live better lives.
- (2) Religious parents make happy homes.
- (3) In war-time religious people are more cruel than those who have no religion.
- (4) Church-goers are more inclined to be self-righteous than non-church-goers.
- (5) Religious teachers make happy schools.
- (6) If Governments were made up of religious people, the laws would be more just.
- (7) As a rule church-goers are no better and no worse than others.
- (8) Church-goers seem to me, if anything, less truthful than others.
- (9) In spite of mistakes, religion has throughout history kept alive the spirit of truth and freedom.
- (10) Religious people give way to fear more than others.
- (11) Religion is necessary for those who live by feeling, but not for those who have learnt to use their intelligence.
- (12) Without religion human beings defeat their own ends.
- (13) True prayer is always answered.
- (14) Religion, by teaching that man should submit himself to the will of God, is an instrument of oppression in the hands of evil Governments.
- (15) Baptism is essential for salvation.

*The 200 teachers, although teaching in a great variety of schools, all belong to the same religious body (The Society of Friends).

- (16) Baptism is a help to a child, only because of its effects on the parents.
- (17) Religion is an imaginary story, which is of little use.
- (18) The only real result of prayer is the comfort we get from saying it.
- (19) Religion has been put into man's soul by God.
- (20) Some people who stay at home are more religious than those who go to church.
- (21) Most people are religious only on Sundays.
- (22) Many people dare not study the Bible properly because they are afraid they will lose faith.
- (23) Much of religion cannot be explained, and I cannot believe what cannot be explained.
- (24) As far as I am concerned religion does not exist.
- (25) Man invented religion because he was afraid of the forces of nature.
- (26) People go to church usually because it is the custom.
- (27) Religion comes to people only at a time of crisis.
- (28) Infants who die unbaptised go to everlasting punishment.
- (29) People who receive the Holy Communion receive at the same time the Holy Spirit.
- (30) Sacraments without the Spirit are a mockery.
- (31) The Churches' attitude to war, slums and other evils shows the worthlessness of religion.
- (32) Religion is to life as frills are to a dress.
- (33) Religion is an essential part of man's being.
- (34) It is absurd to pray to God if He knows all and is all-powerful.
- (35) If we had faith in God we could get everything we wanted.
- (36) All people have a religion, if not a good one then a bad one.
- (37) Priests and ministers have a larger share of the Holy Spirit than other people do.
- (38) Religious people are more charitable than others.
- (39) Every thinking man has some belief in a divine Creator.
- (40) Religion is a great obstacle to real progress.
- (41) The highest ways of living are those taught by the great religious leaders.
- (42) All religions are superstition.
- (43) Deep religious conviction is the only thing which can withstand such evils as fascism.
- (44) Religion has been the great divider of mankind.
- (45) There have been more wars and other cruelties over religion than over any other human activity.
- (46) Religion has no meaning for the world of to-day.
- (47) All really great men have been religious.
- (48) The influence of religion on business is a good one.
- (49) Religion has a bad influence on politics.
- (50) Religion is a great enemy to scientific truth.
- (51) True education must have a religious basis.
- (52) Religion makes people more tolerant.
- (53) I believe that every word of the Bible is true.
- (54) The huge salaries of bishops are quite un-Christian.
- (55) The Bible is inspired, but that does not mean that every part of it is of equal value.
- (56) The Christian Churches of England obey the State rather than God.
- (57) The Churches would denounce an unrighteous war, even if their own country were in the wrong.
- (58) Spiritual power is eternal ; other power passes away.

TABLE VIII.
ATTITUDE TO RELIGION (356 ADOLESCENTS).

	Plus Scores. (Favourable to religion).						Minus Scores (Unfavourable to religion).						
	60	50	40	30	20	10	0	10	20	30	40	50	60
Actual Numbers	0	2	16	47	93	90	66	29	9	3	0	1	

It has been objected that many of the items in the questionnaire are concerned with matters which are beyond the comprehension of such young people. This is, of course, true ; it is also true of adults, in varying degree. But it is probably true also that to most of the young people who replied, the words did convey some kind of meaning, and this was sufficient for the purposes of the enquiry. This is strengthened by the fact,

already mentioned, that the items were extracted from the essays of similar young persons. In any case, the replies to the simplest questions yield sufficient matter of interest.

Answers to Questions 1 to 10 are summarised below:

- Question 1.—Do you go to church (a) regularly, (b) often, (c) seldom, (d) never?
 (a) 88, (b) 107, (c) 135, (d) 42.
 „ 3.—Do you go to Sunday school (a), (b), (c) or (d)?
 (a) 71, (b) 40, (c) 24, (d) 95.
 „ 5.—Will you go to church when you are older?
 Yes, 252; no, 53.
 „ 7.—Do you say prayers (a), (b), (c) or (d)?
 (a) 128, (b) 107, (c) 90, (d) 38.
 „ 9.—Does your mother go to church (a), (b), (c) or (d)?
 (a) 70, (b) 96, (c) 112, (d) 73.
 „ 10.—Does your father go to church (a), (b), (c) or (d)?
 (a) 73, (b) 45, (c) 116, (d) 97.

Answers to Questions 2, 4, 6 and 8 are not very illuminating, being usually "because I don't want to go" or "I don't like church," etc. Replies to Questions 9 and 10 are not in disagreement with Table III.

The items whose average score was unity or more were:

- No. (44) + 1.00 .. Religion has been the great divider of mankind.
 „ (37) - 1.00 .. Priests and ministers have a larger share of the Holy Spirit than other people do.
 „ (17) - 1.05 .. Religion is an imaginary story which is of little use.
 „ (28) - 1.26 .. Infants who die unbaptised go to everlasting punishment.

As with adults, the strongest opinion is that against the punishment of unbaptised infants.

One boys' public school (Nonconformist foundation) sent in 134 replies, which revealed a remarkable increase in average score corresponding with advance in age:

Age 12 (7 boys)	.....	Average score minus 1.8
„ 13 (15 „ )	.....	„ plus .8
„ 14 (30 „ )	.....	„ „ 5.7
„ 15 (34 „ )	.....	„ „ 7.3
„ 16 (30 „ )	.....	„ „ 8.9
„ 17 (18 „ )	.....	„ „ 15.0

Only one other school showed the same tendency—a boy's grammar school, and the numbers are too small to be of any significance.

In other schools any changes with age were irregular.

Not many of the teachers who sent in replies gave details of the religious teaching given in the school, but the head master of the Nonconformist public school was among the few who did. It is a boarding school and the religious teaching is done by masters who are convinced Christians, and who take their religious education very seriously indeed. The head master wrote in a recent pamphlet: "To-day, religious knowledge, if properly taught, can only be a criticism of things as they are . . . we have no right to expect the highest response from children unless we respond by creating conditions wherein these high things may grow. . . . It is fortunate that the great truths of religion are simple and can be comprehended by the young. . . . The old antiquarian approach to the Hebrew scriptures has almost killed youthful interest in them; and the stress on a credal basis for Christianity in early years has been unhelpful to the acceptance of the New Testament by depriving it of relevance to the light of Christ in children's own hearts and His living Spirit active in the world to-day."

V.—QUESTIONNAIRE TO TEACHERS.

The question of the dual system is very important to-day, providing, as it does, the most controversial part of the new Education Bill. In an attempt to discover the attitude of teachers towards this subject a letter was inserted in a teachers' paper, inviting replies to the following questions:

QUESTIONNAIRE III.—FOR TEACHERS.

Church and Council Schools.

- (1) In what type of school are you teaching (Council or Church of England)?
- (2) Have you ever taught in the other type ('yes' or 'no')?
- (3) In your opinion are Council schools or Church schools better in :
 - (a) General attainments? (f) Courtesy (children)?
 - (b) Religious knowledge? (g) Courtesy (staff)?
 - (c) Friendly atmosphere? (h) Helpfulness of managers?
 - (d) Genuine freedom? (i) Character training?
 - (e) Modern methods of teaching? (j) Number of ex-pupils who join a church?
- (4) In your youth did you attend Council or Church of England?
- (5) In which type you would rather teach?
- (6) Are you Head Teacher (H.T.), Certificated Assistant (C.), or Uncertificated Assistant (U.)?

The Replies.

Fifty-two teachers replied, thirty-two being in council schools, seventeen in church schools, and two in other types. Six other teachers sent letters without answering the actual questions. The burden of most of these was that it is the quality of the teachers which counts, the type of school being immaterial. This point is made by twenty-four teachers, who did send in definite replies to the questions. Below is given a summary of replies. All but two of the council school teachers and all but one of the church school teachers had had experience in the other type of school.

	<i>Teachers who consider Council Schools are best.</i>			<i>Teachers who consider C.E. Schools are best.</i>			<i>Teachers who consider other factors more important than type of School.</i>		
	C. T'c'rs.	C.E. T'c'rs.	Total.	C. T'c'rs.	C.E. T'c'rs.	Total.	C. T'c'rs.	C.E. T'c'rs.	Total.
(a) General Attainments	17	2	19	7	2	9	13	8	21
(b) Religious Knowledge	5	17	22	1	12	13	10	4	14
(c) Friendly Atmosphere	5	6	11	3	7	10	21	7	28
(d) Genuine Freedom	11	2	13	4	4	8	18	9	27
(e) Modern Methods	20	1	21	11	0	11	11	8	19
(f) Courtesy (Children)	5	6	11	1	6	7	21	10	31
(g) Courtesy (Staff)	3	6	9	1	5	6	23	11	34
(h) Helpful Managers	2	7	9	3	8	11	24	6	30
(i) Character Training	18	4	22	3	9	12	20	5	25
(j) Future Church Members ..	1	3	4	0	6	6	28	11	39

Replies to Question 5.

Teachers who prefer to teach in Council Schools: 27 C. Teachers, 7 C.E. Teachers; Total, 34.

Teachers who prefer to teach in Church Schools: 4 C. Teachers, 9 C.E. Teachers; Total, 13.

All that was asked for was a postcard with short answers, but some teachers wrote letters giving other opinions. Eleven teachers gave instances of objectional interference by the clergy; ten condemned the bad conditions of Church of England schools. Of those who consider Church of England schools to be better in religious knowledge (answer to Question 4, b) seven comment that it is due to the 'inspections' and doubt its religious value.

VI.—SOME POINTS BEARING ON RELIGIOUS EDUCATION.

The following points in connection with religious education arise out of the enquiry :

(1) There is a demand for religious instruction in schools, even from some people who seldom or never attend church. This is, of course, in full accord with the widely expressed approval of the inclusion of religious instruction in the new Education Bill. Empty churches must not necessarily be taken to show a real decline in religious interest.

(2) The great majority of our groups desire that the school teaching shall be undenominational. Probably what is known as an 'Agreed Syllabus' is intended.

(3) Most of the adults who have given up attending church say they did so because of 'lack of faith.' A possible explanation is that schools and churches fail to make allowance for the psychological development of the child, so that he becomes as it were 'fixated.' Children may remain at an immature stage in emotional or intellectual matters if their schooling is too rigid. For example, a child's naive attitude towards prayer, while natural in the child, is unsuitable and may be disastrous in the adult. Between the attitude of the child and that of the adult believer there must be a continuous development.

The whole question arises here also of 'compulsion' applied to school services. A large proportion reported that they ceased attending "when the compulsion was removed."

(4) Suggestions for religious education can be provided by examination of the schools which seem, in some ways at least, to be most successful in their religious teaching. People's attitudes towards the church were much less favourable than their attitude towards religion, and the young people rejected the belief in any special sanctity attaching to priest or minister.

(5) The importance is stressed of obtaining teachers with the right kind of character and training, and these are considered as of far more importance than the type of school.

(6) There is very little belief in the literal inspiration of the Bible. Our enquiry seems to suggest that the majority of those taught a 'fundamentalist doctrine' will throw the whole overboard. The traditional doctrine of baptism was strongly rejected by young and old.

(7) There was strong approval of the suggestion of the teaching of comparative religion. This would be in accord with modern ideas of encouraging children to form their own opinions instead of accepting them at second hand.

VII.—SUMMARY OF RESULTS AND CONCLUSIONS.

(1) An 'attitude scale' in the form of a questionnaire was distributed to 1,400 part-time workers of *Mass Observation*. The attitudes were moderately in favour of religion.

(2) Replies to subsidiary questions showed :

(a) That the great majority attend church seldom or never ;

(b) That their attitude towards the church is distinctly less favourable than their attitude towards religion ;

(c) That most of them advocated undenominational teaching of religion, and teaching of many religions to children in schools ;

(d) That of those who have ceased to attend religious services, most gave it up between the ages of 15 and 19, or 'on leaving school.'

(3) A similar questionnaire was given to adolescents in a variety of schools, 354 replies being received. The results showed :

(a) That the attitude towards religion was similar to that shown by the adults' scale, though not quite so strongly favourable to religion ;

(b) That most of their parents attended church seldom or never ;

(c) That a large majority expressed the intention of attending church when they grow older ;

(d) That in one boys' public school the attitude towards religion became steadily more favourable as the boys grew older.

(4) A short questionnaire was answered by fifty-two teachers. The majority preferred to teach in council schools rather than church schools, but the general opinion was that the results of the education given at church or council schools depended more on the quality of the teachers than on the type of school.

(5) A few suggestions were made concerning religious education in schools.

YOUNG PEOPLE'S COLLEGES AND LEISURE TIME.

By OBSERVER.¹

I.—*Introduction.* II.—*Adolescents need to mature more slowly.* III.—*Young people's colleges must recognise the essential characteristics of adolescence.* IV.—*Wide range of standard.* V.—*Colleges as leisure centres.* VI.—*Place of voluntary organisations.* VII.—*Compulsion in leisure activities?* VIII.—*Residential accommodation.* IX.—*Variety of pattern.* X.—*Summary.*

I.—*Introduction.*

IN the June, 1943, number of the *Journal* there was discussion of various principles of primary importance in planning the further education of adolescents involved in the new education proposals.² This article does not set out to continue these discussions but rather to express some practical conclusions of one who has been able to observe on a considerably wide scale what has been done in the past by different agencies and in different parts of the country to provide leisure time activities for the types of boy and girl who will be the pupils of the young people's colleges.

II.—*Adolescents need to mature more slowly.*

If young people's colleges are to do all that is expected of them it must be recognised that they are part of, and not an excrescence on, the educational system. One of the worst features of our past practice has been that we have treated immature adolescents as if they were adults and cast them for the most part into the vortex of industrial life. It has been the custom of those who can afford it to keep their sons and daughters in pupilage throughout the period of adolescence. The important principle in the new educational proposals is to give the same advantages to all.

The raising of the upper limit of full-time education is clearly within this principle, but many are regarding the part-time education which will continue until 18 as something essentially different. For boys of 16 and 17 at a public boarding school it is apparently natural to continue the process of training and guidance as part of a whole; but for the majority who will not have this privilege many seem to think it must be something very different. They must not think they are remaining at school like better-to-do boys and girls: they will have left school to enter the world of workers and will be soothed into enduring tutelage for one day a week by being gulled into the belief that they are no longer boys and girls but young people attending college. They may be of the lowest standard of intelligence and be able to benefit from only the simplest form of instruction, but still, forsooth, they will be collegians.

This doctrine seems to be a compound of bad psychology, false social values and muddled thinking. The primary need is to enable young people to spend a longer time in preparing for life. Primitive society makes simple demands on its members, and therefore the period of training may be short. Civilization complicates life, it extends its term, and it is now reducing the numerical proportion of the young to the adult. All these factors create a need for economy of the young of the race and for a more elaborate training to enable them to undertake their part in the complex civilised world. In a word, it is necessary to allow them to mature more slowly and to spend more time in the pre-adult stage. The whole tendency of education is along these lines. We have recognised it for long

¹ The writer of this article does not wish his name to appear as he holds an official position concerned with matters on which he writes. But I may say that he has a very wide knowledge of all youth services and has done extensive and detailed research on the various attempts which have been made to provide for the leisure and further education of adolescents.—EDITOR.

² OLIVE A. WHEELER: "The Service of Youth"; C. W. VALENTINE: "Adolescence and Some Problems of Youth Training."—This *Journal*, Vol. XIII, Part II.

in training the few leaders of society : now we are proposing to do it for the rank and file, but we seem to miss the basic social principle. Continued education will be started on wrong lines if, failing to see that it is a continuation, we treat it as something essentially different from what has gone before.

III.—*Young people's colleges must recognise the essential characteristics of adolescence.*

Different it must be, but in degree and not in kind. In content and method it must accord with the growing sense of independence and expression of power and interests which are the proper and natural phenomena of adolescence. Childhood is an age of relative stability—a stability ensured by the guarding and guiding hand of parent and teacher. If life develops as it should we are stable when we are adults, stable because we have learned the art of poise which comes from ability to guard and guide ourselves. In between there is that period of adolescence, of becoming adult, when we are hither and thither, trying all things.¹ It is right that the adolescent should sprawl and flounder, but there is still necessary the guarding, guiding hand, although it be used less frequently and less obtrusively. There is stability in the nest and on the practised wing ; but the mother bird knows that she must be in the offing when her ungainly young are first tumbling in flight.

If the extension of our educational care for the adolescent is to be complete it must take within its scope every factor of personality. It must have regard to all relationships which are implicit in personality, and it must help the young to exercise all those capacities which they possess. These relationships are various. The central individuality of the person has no meaning except in its outer impacts and reactions. These are embraced in what we call fellowship, and fellowship expresses itself in a multiplicity of social relations whether as a member of a family, a school, a club, or as a worker or a citizen in the widest sense. It expresses itself in private life and in public, at work and at play.

In adolescence the personality is in a stage of rapid growth. Body, mind, emotions and moral and spiritual values are developing. Personality is showing the form which will soon be determined for life. Emotional and moral habits are taking shape : now as never again intellectual and physical skills are being developed. If the young people's college is to serve the fullest purpose it must recognise that its duty is to the whole personality. It must also realise that it is dealing with a personality more developed than that of the child. The child is relatively docile, unquestioning in acceptance. The adolescent, now a young worker for the greater part of his time, is conscious—perhaps over-conscious—of his individuality and independence. He will test values, often maybe with aggravating wrong-headedness ; but he will assuredly test them. He will criticise and question, with a violence in proportion to his vitality. He will respond as no child can to the stimulus which enables him to express his personality : if he feels himself thwarted he will rebel, or, worse still, merely endure. The adolescent is a small respecter of persons who can give him nothing to aid his expression : to those who can he will render respect, admiration, affection.

IV.—*Wide range of standard.*

The young people's college has unlimited opportunity if it appreciates its function liberally and generously. It will be faced with immense difficulties, one of the greatest of which will be the variety of standard of intelligence and of the capacity in the boys and girls who come within its care. This will be met most readily where numbers are large enough to permit of grading and grouping so that classes can be arranged with some degree of homogeneity. But if its activities are limited to bare attendance on one day a week it will not be able to achieve much. Its greatest hope lies in becoming a society where young people will not merely attend for the obligatory day but will find a centre of activities so attractive that it draws them back in their leisure hours.

It is to be hoped that these colleges will take many forms and be of different kinds and sizes. We want experiment and variety. One would wish to see some at any rate

¹ See, for example, VALENTINE's article referred to above (Section IV, Instability of Interests).

aiming at being youth centres in the fullest degree possible. This will necessitate a large attendance and a large building or group of buildings. If attendance is for one day a week the total number will be five times the daily attendance. A register of, say, 1,250 would mean that 250 were at school each day.

V.—*Colleges as leisure centres.*

The college should be designed no less for recreational than for instructional purposes. Indeed it might be better to make the teaching function secondary in the design. That would call for a building with recreational capacity for a register of 1,250, which might mean an average attendance each evening of about 800. There should be club rooms for boys and girls separately and in common. They must be ample in size and number and they must be furnished—not merely supplied with tables and chairs: they must be comfortable and beautiful. There will also be a canteen for common use by boys and girls. More specific kinds of recreation will demand a library and games rooms. By day the needs of the curriculum will entail provision of classrooms and workshops for all sorts of handicrafts—woodwork, metal work, needlework, cookery, photography—and they will be available for those pursuing these activities as a hobby in the evening.

Physical recreation will need gymnasias for boys and for girls, and a swimming pool. A hall will be necessary for music, dancing, drama, lectures and social gatherings, and it must be equipped with a film projector. Larger meetings can be held in the hall, but for discussion groups and committee meetings there must be smaller rooms so furnished and arranged that an atmosphere of intimacy can be created. The sanitary equipment must include baths, and there should be place for medical and dental clinics. There should also be small private rooms for interviews with those concerned in after-care, vocational advice or the solution of any problem that calls for a quiet talk between an adult and one of the boys or girls.

One of the chief reasons why boys and girls have in the past availed themselves to so small an extent of the provision made by clubs and other voluntary organisations¹ is because these have been housed so unattractively. Few could offer accommodation approaching what is common in many modern schools and in most cinemas and dance halls. The young people's college must not be a dull and inhospitable barrack but a commodious and beautiful place which it is a pleasure to enter. It certainly must not be a school building used in the evening as a makeshift. The other reason for small attendance in the past has been the fact that young people did not know of the facilities available. Our youth centre must advertise itself by its commanding situation and appearance. It must be such a building and so placed that every bus conductor knows it and the townsman can tell the stranger where it is. How often is this true of a boys' or girls' club?

The youth centre must also be able to provide opportunity for outdoor sports, and if it cannot be situated in its own athletic campus it must have playing fields available near enough to enable its members to make ample use of them. It will also be a focus for exploits further afield. It will have its walking and cycling groups. Some will travel even further to foreign countries. They will use youth hostels at home and abroad, and we look to the provision of youth ships to make world travel cheap and easy. Then there will be those more venturesome ones who will want to organise exploits by land, sea and air, the mountaineers, the voyagers and the explorers. And there will be those who will band together to do work for others in their leisure hours and during holidays. The youth centre must be a focus for all these kinds of activity.

VI.—*Place of voluntary organisations.*

If the recreational provision is to be fully flavoured it must be possible to organise in the college groups which are attracted by one or other of the various juvenile organisations or uniformed corps. It should be possible among such a body of boys and girls to

¹ O. A. WHEELER: *Ibid.*, p. 71.

find scope for a number of different activities of this kind. Rovers, Rangers, Brigades, St. John Ambulance, as well as pre-service units, would all form part of the scheme, and these must have suitable accommodation in which they can carry on their work and develop the particular enthusiasms and loyalties which would spring from their activities.

VII.—*Compulsion in leisure activities?*

There are those who believe that it is so necessary for every boy and girl to have suitable leisure occupations that if they fail to participate in some such voluntarily they should be compelled to do so.¹ But the essence of leisure is that it should be free. Compulsory leisure activity is a contradiction of terms. Moreover, one of the greatest purposes of providing leisure activities is to give opportunity for learning under guidance how to use freedom. That is a very difficult art; but only those who have learned it can exercise democratic citizenship. You cannot drill people into freedom: you can only create the conditions where it can be acquired; and the acquisition must be self-determined. Then there are the individualists whose personality will develop only with some opportunity for solitude. The majority may need and crave for the company of the herd, and none of us can divorce himself wholly from his fellows; but there are the lone wolves, rarer beings, it is true, who will flourish only if they have a chance to withdraw at need. These will probably be sensitive natures and even though they are difficult and awkward fellows they may be a valuable leaven in the more solid lump of the community. Of such is the artist and the genius; and to force them into the common mould may blunt the fine edge of their spirit. One of the greatest blasphemies of totalitarianism against life is that it crushes the rebel; for growth needs rebels—the protestants who burst the cortex and put forth the new shoot. We must all conform to some extent if we are to live in society, but for all in some degree, and in large degree for a few, there must be freedom for living our own life, as we say. Leisure is the pasture where we must be able to browse at will.

It is right that ample pastures should be available, and that we should be given various opportunities for exercising our choice. This means that leisure activities should be variegated and bountiful. The young people's college, if it is to serve its purpose fully as a youth centre, must offer the fullest opportunities and its offer must be attractive. In this way it will compel; without being compulsory it will be compulsive.

VIII.—*Residential accommodation.*

There is one other respect in which the young people's college should serve. In the future it is to be expected and hoped that older boys and girls will become more mobile. If they are to get full chance to develop their capacities they must not be limited in their choice of career by the geographical accident of their birth. The son or daughter of better-to-do parents have been able to leave home for their training or to take up the job for which they are fitted. Not so the children of the poor. In the future, however, we shall not be able to afford waste of capacity; and if potential skill is to be developed boys and girls must move much more freely than in the past. Under the pressure of unemployment, it is true, poor boys and girls were moved in considerable numbers under the juvenile transference scheme, but this was always regarded as an unfortunate necessity. It should be regarded as normal and desirable where young people cannot get proper facilities locally.

It is clear that not every boy and girl will be within range of a young people's college. Notably the young farm worker and the seafarer will be unable to attend the college once a week. It is recognised that he may have to attend for the equivalent time in one or two block periods during the year; and in other industries this may prove to be the best arrangement. This will immediately raise the question of residence away from home and it is to be hoped that hostels will be provided so that instead of living in lodgings young people can enjoy the benefits of communal life which may be of great educative value.

¹ C. W. VALENTINE discussed this question (*Ibid.*, pp. 66-67). He gives an example to show that compulsion is not essential for a youth club to be successful even in an unfavourable district, and I could add many more such examples.

These hostels might be attached to young people's colleges, either as part of them or at any rate linked with them so closely that the college brings together into one society the young stranger and the boys and girls of the locality to their mutual benefit. They should be available for any young worker who is in need of lodging.

IX.—*Variety of pattern.*

It is most improbable and certainly undesirable that all these colleges should be of one pattern. That is not our way. But we may hope that there will be many experiments in making young people's colleges real societies where adolescent boys and girls are obliged to attend for their statutory period of education and where the facilities for leisure time activities are so various and attractive that they will be unable to keep away even when no one says they must be there. One can easily let the imagination run on and see growing from this an abiding affection which will find expression in a demand for old boys' and girls' clubs rooted in the loyalty which free and happy membership alone can produce.

X.—*Summary.*

(1) One main need of the adolescent is that his maturing should not be forced by too early absorption in earning his living. The young people's colleges should afford opportunity for such delay of maturing.

(2) The work and life of the young people's colleges should be intimately adapted to the special psychological characteristics of adolescence.

(3) The wide range of ability and attainments among the pupils of the colleges demands suitable classification and grading.

(4) The colleges should be centres of leisure.

(5) There should be co-operation with voluntary organisations.

(6) There should be freedom for leisure occupations.

(7) Residential accommodation for full-time attendance for a short period should be provided for youths (e.g., farm workers and seafarers) who cannot attend regularly part-time, and should be available to young workers living away from home.

(8) Young people's colleges should not all be planned to one pattern, but freedom should be left for experiment.

MENTAL ABILITIES AND MENTAL FACTORS.

By CYRIL BURT.

I.—Definitions. II.—Factor-analysis as a method of weighting marks. III.—The nature of the factors found. IV.—Summary.

I.—DEFINITIONS.

Problem.—This note has been written at the Editor's request, in answer to questions raised by correspondents in reference to one or two of my recent articles in this *Journal* (XII, pp. 156-161, and XIII, pp. 126-140). In the latter (dealing with the implications of the Norwood Report) I referred to the light thrown by factor-analysis on the classification of children at 11+ according to general and special abilities; in the former, I criticised Miss Wright and other factorists for invariably identifying 'factors' with 'abilities.' "What then," I am asked, "is the relation between mental abilities and factors in statistical analysis?"

In their earlier writings most factorists treated the words as synonymous. But they left their readers to guess what precisely they understood by them. Hence it is impossible to answer the question put, unless we first decide how psychologists are using these terms.

To the reader ill at ease with formulæ and mathematical symbols I may suggest that the main points may be grasped from the paragraphs in larger type.

Definition of ability.—The notion of 'mental abilities' is a special instance of the age-old attempt to explain observable but transient actions by attributing them to hypothetical but permanent causes or 'powers.' It is part of the legacy which both science and popular thought have received from Aristotle through the scholastic philosophers. "Every act," it was held, "must proceed from some *faculty* of operation as its efficient cause."¹ Thus Thurstone's definition, "An ability is a trait defined by what an individual can do,"² might almost be a translation from Thomas Aquinas. In this sense, as he points out, "there are as many abilities as there are enumerable things that individuals can do." The scholastics, however, would have added that we should not postulate a distinct ability or 'power' unless the acts or performances are 'adequately distinct.' Both for theoretical and for practical purposes we must first reduce these numerous performances to a small number of independent abilities, common to large classes or groups of such performances: accordingly, 'intelligence' is postulated to designate a single assumed ability common to all intellectual processes: 'memory,' a similar ability common to every process of remembering. Thus interpreted, I should at once agree that abilities are undoubtedly factors, but I should at the same time insist that factors are not necessarily abilities.

Often, however, it is further implied that every ability, to deserve the name, must be (in Spearman's language) not merely 'independent' but also 'elementary.' It must be a 'pure,' 'simple,' or 'ultimate' capacity—unanalysable and irreducible, like an 'element' in chemistry. Such abilities are commonly thought of as innate or inheritable powers, lodged in definite structures—in organs or areas of the brain; and, since each is independent of the rest, the suggestion is often made that it is inherited as a unitary character and transmitted by a single gene.

In this sense, 'mental abilities' are very like the old-fashioned 'faculties of the soul.' Nor does Thurstone hesitate to declare that "the object of factor analysis is to discover mental faculties."³ Similarly Spearman has described factors as the 'fundamental functions' or

¹ The classical statement of the doctrine is that of St. Thomas Aquinas (*Quest. disp. de anima*, a, 12): "Secundum diversitatem actionum oportet esse diversitatem potentiarum. . . . Potentia enim ad actum dicitur correlativa." Cf. Aristotle, *Phys.* III, 1, *De Anima*, III, 7. The ἐνέργεια and ἐνέργεια of Aristotle have become the 'forces' and 'potential energy' of modern science.

² *Vectors of Mind*, p. 48.

³ *Vectors of Mind*, p. 53. In a more recent discussion (*Psych. Bull.*, XXXVII, 1940, pp. 189 f.) THURSTONE has expressed a much broader view, coming much closer to the account I ventured to put forward in *The Factors of the Mind* (1940).

organs of the mind. In opposition to the view I myself advanced, he insists that a factor must be 'more than a mere average or sum': it must be some kind of 'causative agency,' a 'persistent entity,' in short—a 'power,' an 'energy,' or an 'engine of the mind.'¹ So far, then, the difference between an 'ability' and a 'factor' (as I understand it) is that I do not regard the notion of a 'factor' as necessarily forming a concrete cause.

Definition of factors.—A factor is in the first instance merely a principle of classification. If the things classed together happen to be manifestations of some common mental process, then the factor may be roughly identifiable with that process. The peculiarity of factor-analysis is that it seeks to discover the best principles of classification by means of mathematical rather than of logical or experimental analysis. It is thus more trustworthy than a logical analysis of a purely verbal type (such as the scholastic philosophers relied upon), but less conclusive or concrete than an analysis based on experiment. The value of factor-analysis is greatest in the scientific study of those more complex problems in which quantitative measurement is still possible, although direct experimental inquiry is, as a rule, impracticable.

Although the name is almost peculiar to psychology, factor-analysis is by no means a purely psychological technique; much less is it merely an instrument for extracting 'abilities' and nothing but 'abilities.' It can be used quite as well (as I sought to show some thirty years ago) for the analysis of emotional traits and temperamental types. Applied to bodily measurements it reveals a 'general factor' of physical growth and a 'bipolar' factor, distinguishing contrasted physical types—'pyknic' and 'asthenic'—much as we find in analysing intellectual and temperamental traits. Sometimes a factor common to a set of test-measurements proves to be simply maturity, age, or relative difficulty (as I pointed out in discussing analyses of Binet tests). Sometimes it may represent an external influence, shared by all the children tested and affecting them in different degrees: e.g., duration of attendance at a particular type of school or strength of interests aroused by such attendance. Again, altogether outside the sphere of human personality, factor-analysis may be fruitfully applied to determine economic trends, social tendencies, environmental conditions, and the like. Finally, an almost identical procedure has been elaborated by quantum physicists for resolving heterogeneous aggregates of atoms or molecular rays into a system of homogeneous components.*

II.—FACTOR ANALYSIS AS A METHOD FOR WEIGHTING MARKS.

Factors as weighted sums.—The principle of factor-analysis is the same as that which we teach in geography lessons, when we show our pupils how the directions and distances of places on the map (where the directions can be infinitely numerous) may be expressed by means of two dimensions only, namely, latitude and longitude, or in elementary physics, when we explain how to resolve an observable force into two hypothetical components at right angles—a north-east wind into two imaginary winds blowing from north and east simultaneously.

As used in psychology, factor-analysis thus turns out to be simply a mathematical technique for reducing a large number of correlated trait-measurements to terms of a small number of uncorrelated factor-measurements.

All such conversions are effected, as every schoolboy knows, by taking, not an ordinary average but a weighted sum. Suppose that, in an examination for entrance to post-primary schools, we want to determine (i) what amount of general educational ability is possessed by each examinee, and (ii) whether he is predominantly of an academic or 'grammar school' or of a technical or 'trade school' type. All we have to do is to apply a set of tests measuring their achievements in the main subjects of the elementary curriculum, and then express the marks in terms of these two classificatory principles.

¹ *Brit. J. Psych.*, XXIX, pp. 184 f.; cf. *Abilities of Man*, pp. 58 f.

* The object of the quantum physicist is to obtain what he calls a 'spectral set of selective operators' which "analyse any mixed aggregation into pure constituents, in the same way that light is analysed by a prism or grating into the different pure lights that form a spectrum." This is precisely the problem of the factorist in psychology. I have compared the two procedures in detail in *Psychometrika*, III, pp. 151-168. The science teacher who is interested in the parallel will find a popular introduction to the method in Eddington's *New Pathways in Science*, pp. 263 f.

For simplicity, let us restrict our discussion to three tests only: Arithmetic (A), English (E), and Handwork (H). Then each pupil's mark or measurement for the first or 'general' factor may be computed by the simple formula:

$$G_j = w_{ga}A_j + w_{ge}E_j + w_{gh}H_j \dots\dots\dots (1)$$

where j stands for any individual pupil (let us call him John); G_j for his measurement for the general factor; E_j , A_j , and H_j for his marks in the three tests; and w_{ga} , w_{ge} , w_{gh} , for the three 'weights' by which we multiply his three test-marks, so as to obtain the best estimate for the factor in question. The calculation is no more difficult than trying to discover how much money John possesses in pounds sterling (G_j) when we know that he has received A_j dollars from his father, E_j francs from his mother, and H_j rupees from a grandfather in India; all that we need to find out are the several rates of exchange, viz., w_{ga} dollars, w_{ge} francs, and w_{gh} lire to the pound.¹

Now, just as John's factor-measurement is the weighted sum of his test-marks, so (the psychologist supposes) his mark in any one test can be considered as the weighted sum of his measurements for the several factors. Thus Spearman would write:

$$A_j = r_{ag}G_j + r_{as}S_j \dots\dots\dots (2)$$

where G_j (as before) denotes the amount of intelligence John has inherited from his parents, and S_j his measurement for the 'specific' factor peculiar to the arithmetic test (A); and the new set of weights, r_{ag} and r_{as} , are the so-called 'factor saturations' or 'factor loadings.' The process is equivalent to changing John's pounds back into dollars, S_j representing the commission.

The phrase 'specific factor' must not lead the reader to suppose that it necessarily measures a 'special ability': as a rule, it consists chiefly of 'unreliability,' i.e., of errors of measurement. In his earlier writings, Spearman doubted the very existence of 'special abilities,' and analysed every test-measurement into terms of two factors only.² Yet it is precisely on the basis of these special abilities that (according to the Norwood report) teachers are to classify their pupils for transference to the three main types of school. We must not, therefore, limit our equation at the very outset so as to exclude all possibility of such additional factors. Equation 2 must be enlarged and re-written:

$$A_j = r_{ag}G_j + r_{an}N_j + r_{av}V_j + r_{am}M_j + r_{as}S_j \dots\dots\dots (3)$$

Here N_j , V_j and M_j will denote John's measurements for the 'numerical,' 'verbal,' and 'manual' factors, if the analysis demonstrates their existence. There will be similar equations for E_j (his mark in English) and H_j (his mark in handwork).

In statistical jargon both sets of 'weights' would be termed 'partial regression coefficients': the w 's are the 'regressions' for estimating the factor-measurements when we know the examination results, and the r 's are the 'regressions' for predicting the examination results when we know the child's measurements for the factors of 'intelligence,' 'numerical aptitude,' and the like.

Now if a given factor (say 'intelligence' or 'verbal ability') enters into a particular test (say arithmetic), the measurements for that factor will obviously be correlated with the marks for that test; and, assuming (as we usually do) that both factors and tests are in standard measure, the 'weight' required from predicting the test measurement from the factor measurement will become *identical with the correlation between the test and the factor*. If the verbal factor does *not* enter into the arithmetic test, r_{av} will turn out to be zero. Spearman suggested the

¹ For the non-mathematical I may explain that the phrase a 'weighted sum' means a sum of weighted quantities. The double subscripts attached to each weight indicate the value to be determined and the quantity to be weighted: e.g., w_{ga} means the coefficient to be used for weighting Arithmetic (A) when determining General Intelligence (G). Thus, taking the weights from Table III below and the marks from Table I, John's *weighted* mark for intelligence is

$$.660 \times 8 + .152 \times 6 + .271 \times 7 = 8.1;$$

whereas his *average* mark for the three subjects is simply

$$\frac{1}{3} (8 + 6 + 7) = 7$$

where the weights are the same throughout, viz., $\frac{1}{3}$.

² To avoid the confusion between 'specific' and 'special,' many recent writers have preferred to speak of 'unique' rather than 'specific' factors, and 'group-factors' rather than 'special abilities.' Spearman himself definitely says that "Those who claim to measure 'special abilities' are living in a fool's paradise. Cases of 'group-factors' have been astonishingly rare. The modern version of the doctrine of 'faculties' is none the happier for discarding the old name while retaining the old fallacy." (*Abilities of Man*, First Edition, pp. 222, 241).

name 'factor saturation,' because he supposed that it indicated the extent to which the test was 'saturated' with the 'causal agency' or 'energy' that constituted the 'factor.' And most factor-analyses have been content with determining the factor saturations, and nothing more. But if we accept arguments of this kind as sufficient evidence that the 'factors' are 'causal agencies,' we shall obviously be infringing the oft-repeated warning: "By itself a correlation can give no proof of causation."

Moreover, we do not know the child's factor-measurements, but only his test-measurements. Hence for practical purposes what we really need are not the factor-saturations (r) but the weights (w) for estimating the factor-measurements. Even for theoretical purposes I am tempted to suggest that we get a better notion of what each factor and each test denotes if we think of the factor as specified by test-weights, and the test as dependent on the factor-saturations.¹

Example.—How then in actual practice are we to deduce each pupil's measurements for the several 'factors' from his marks in our examinations or tests? An illustrative calculation with an actual mark-sheet will make the process clear. Five boys sat for a scholarship examination. The three examiners marked on a scale of 0 to 20; but, in order to distinguish good performances from weak, they have converted the raw marks into deviations about the general average for each tests: thus, a good performance receives a plus mark, a weak performance a minus (Table I).

TABLE I.—MARKS IN SCHOLARSHIP EXAMINATION.

Pupil.	Test.			Unweighted Total.	Average for Pupil.
	Arithmetic.	English.	Handwork.		
John.....	+8	+6	+7	+21	+7
James.....	+3	+5	-2	+6	+2
Tom.....	-2	-4	+6	0	0
Dick.....	-1	-3	-2	-6	-2
Harry.....	-8	-4	-9	+21	-7
Average for Test	0	0	0	0	0
Range	16	10	16	42	14
Standard Deviation ..	5.33	4.52	5.90	13.8	4.6

Determining the general factor.—In most examinations, in order to assess each candidate's general ability, the examiners just add his marks as they stand. This is equivalent to adopting equation (1), but putting all the w 's equal to one: thus John's general ability is assessed by the 'unweighted total' of his marks for the three tests (+21). But the experienced teacher will immediately ask: are examiners really justified in assuming that handwork gives quite as valuable a clue to a child's general educational ability as arithmetic or English?

The question can evidently be answered by correlating the marks for each test with the measurements for general ability as assessed by the total or average. The correlations so obtained are shown in the first column of Table II. We see at once that the three tests are *not* of equal value. Plainly the examiners should give more weight to arithmetic than to the other subjects. What weights then are they to choose?

The first suggestion will be to take the factor-weights (w) as proportional to the factor-correlations (r). This, as we have seen, is inaccurate, but it will yield a definite improvement. Let us then begin by multiplying each column of marks by the factor-correlation it has just supplied; and calculate the totals afresh. If now we re-work the correlations, using these new

¹The term 'test-saturation' would have prevented the beginner from mistakenly supposing (as he so often does) that these coefficients show how the *factors* are saturated with the *tests*. At the same time it must be remembered that there are definite risks in regarding partial regression-coefficients as indicating the proportionate contributions of the 'independent' variables to the 'dependent' variable, when the former are correlated amongst themselves.

weighted totals in place of the unweighted, we shall find that we have made the differences between the correlations, and therefore between the weights, still larger. And so we might keep repeating the process, hoping eventually to reach the best weighted average by a method of successive approximation. But there is a quick short cut.

TABLE II.—CORRELATIONS OF TESTS WITH SIMPLE AND WEIGHTED AVERAGES.

Test.	Correlation with		Factor Saturations.
	Unweighted Average.	Best Weighted Average.	
Arithmetic (r_{ag}) .....	.978	.986	.986
English (r_{eg}) .....	.827	.834	.834
Handwork (r_{hg}) .....	.825	.798	.798

Before this can be employed, however, we must first get rid of a troublesome defect in ordinary marks—a defect which is nearly always overlooked. Unless special precautions are observed, almost every examiner tends unconsciously to introduce a meaningless weighting of his own by the way he distributes his marks. Here, for example, the examiner for handwork has been far more free with both high and low marks than the examiner for English: the range for handwork is 16, for English only 10. The result is to impart, quite unintentionally, the greatest weight to the very test that should have received the least. Note, for instance, how Tom's generous mark for handwork (though he is not the best in this subject) pulls up his low marks for arithmetic and English. To get rid of this unfair weighting, a psychologist first puts the marks into 'standard measure'; that is, he divides each examiner's figures by the average of the deviations (calculated as the root-mean-square deviation, or 'standard deviation,' shown at the foot of Table I).

Some such device is now adopted in many university examinations (for example, marks for the teacher's certificate examination are always awarded by London examiners according to a standardised scale). An older method was to introduce a deliberate weighting by prescribing a higher maximum and therefore a wider range for the more important subjects. But such a rough and ready procedure is far too inexact for scientific needs. In no other science should we be content to weight our measurements on the basis of armchair suggestions agreed upon at a board meeting. The method regularly adopted (as teachers of science will know) is to weight the measurements in accordance with the 'principle of least squares.' *Factor-analysis is an accurate short cut for discovering the best weights in accordance with this principle.*

The method of least squares leads us to work with product-sums instead of with the detailed measurements themselves. This saves the tedious process of trying to discover the 'best weights' by weighting and re-weighting the marks by 'trial and error,' as described above. The essential steps are exceedingly simple,¹ and are set out in Table III.

TABLE III.—CORRELATIONS AND CALCULATION OF FACTOR-SATURATIONS.

Test.	Arithmetic.	English.	Handwork.	Total.
Arithmetic	(.986)	.881	.713	2.580
English .....	.881	(.928)	.375	2.184
Handwork .....	.713	.375	(1.000)	2.088
Divisor, 2.618	2.580	2.184	2.088	6.852 = 2.618 ²
Factor Saturations .....	.986	.834	.798	2.618
Weights .....	.660	.152	.271	—

¹ To obtain the factor-saturations the total correlation for each test is divided by the square root of the grand total (2.618). To obtain the weights, the factor-saturations are divided by the correlation matrix with unity in the diagonals. How matrix-division is carried out, and how the self-correlations are determined, are technical points described in the text-books on the subject: for working methods, see *Factors of the Mind*, Appendix I.

The weighted marks, obtained by dividing the raw marks by the standard deviations and then multiplying by the weights, are given in Table IV. *The weighted total* (shown in the last column) *provides the best available measurement of the 'general factor.'* If we now re-calculate the correlations between the original test marks and this weighted average, we shall reach the figures shown in the second column of Table II: these are *identical* with the 'factor-saturations,' appended in the last column of that table. Thus we can calculate the saturations either by correlating the detailed marks or by the short-cut shown in Table III, i.e., by working with the inter-correlations between the tests instead of with the test-marks themselves.

TABLE IV.—ESTIMATES FOR THE 'GENERAL FACTOR' OBTAINED FROM WEIGHTED MARKS.

	Test.			Factor. General Educational Ability.
	Arithmetic.	English.	Handwork.	
Multipliers	$\frac{0.96}{5.33}$	$\frac{0.15}{2.62}$	$\frac{0.27}{5.00}$	
Pupil.	Weighted Marks.			Weighted Total.
John	+ .99	+ .21	+ .32	+1.52
James	+ .37	+ .17	— .09	+ .45
Tom	— .25	— .14	+ .28	— .11
Dick	— .12	— .10	— .09	— .31
Harry	— .99	— .14	— .42	— 1.55

One practical point emerges from the analysis we have made. *Even when the best weights are widely different the weighting makes far less difference than might commonly be supposed.*

This is why examiners, who know nothing of factor analysis, are able to make fairly good assessments for a pupil's *general* ability by just adding his marks as they stand: in the present case, the weighting only alters the correlations between the general factor and the tests by about $\pm .03$ (see Table II). The principle, however, cannot be trusted for more *specialised* factors.

Determining bipolar factors.—Now the correlations in Table III (which are taken from an actual examination) cannot possibly be accounted for on Spearman's theory of a single common factor only. And, as we have already noted, the new scheme of education requires the teacher to sort out, not merely those pupils who have high *general* intelligence from those who have low, but those who have different *special* abilities or 'aptitudes.' It is, therefore, of particular importance that teachers should understand how they can classify their pupils according to these more specialised abilities. The principle I want to recommend is sufficiently obvious once it has been stated: to determine whether a child is relatively superior (or relatively inferior) in a special ability entering into a related group of subjects (e.g., in the 'verbal' or 'literary' ability entering into various tests of 'English'—reading, spelling, composition, and the like) it is not sufficient (i) to average his marks for that particular group of subjects: we must also (ii) *deduct an allowance for his degree of general ability.*

It is the omission of this second step that has largely stultified our previous schemes of school classification at the transition stage. Two pupils may obtain the same high mark for (say) English and arithmetic: yet one may owe his high mark, not so much to general intelligence, but rather to special aptitude for (or special interest in) academic work; the other may owe it, not to any special aptitude, but simply to high all-round intelligence; hence it is conceivable that, had we properly assessed them, his special aptitudes or interests might lie rather in the direction of technical or manual work. In the past, ignoring this second possibility, we have commonly sent both types of pupil to secondary schools of the 'grammar school' kind.

How then are we to discriminate these more specialised types? For simplicity, let us suppose that we are concerned with two kinds of post-primary education only, and therefore merely require to distinguish pupils who have a greater aptitude for grammar school subjects (such as English, arithmetic, and the like) from those who have greater aptitude for manual or technical subjects (represented in our present examination solely by handwork). A dichotomous classification of this sort can be represented by a single bipolar factor.

Our first step will be to determine whether there is any genuine ground for such a distinction. The simplest procedure would be to subtract each pupil's unweighted average from his marks for the three separate subjects. We should then obtain as remainders the figures shown in Table V. We see at once that, after 'general intelligence' has been eliminated, the residual marks for English and arithmetic tend to go together; whereas each is now *negatively* correlated with handwork. Thus, if we *reverse* the signs for handwork, the total or average of all three sets of residuals will give a *positive* mark to those who are better in the 'grammar school' subjects than in the manual, and a *negative* to any pupils who are better in the manual than in the academic. A formal factor-analysis aims at exactly the same result except that (as before) it seeks to weight each subject in the best way possible.

TABLE V.—ESTIMATES FOR THE BIPOLAR FACTOR.

Pupil.	Test.			Unweighted Total.	Average for Pupil.
	Arithmetic.	English.	Handwork.		
John	1	-1	0	0	0
James	1	3	-4	8	2 $\frac{2}{3}$
Tom	-2	-4	6	-12	-4
Dick	1	-1	0	0	0
Harry	-1	3	-2	4	1 $\frac{1}{3}$

Determining group factors.—So long as we require only a dichotomous classification into two antithetical types, the procedure just described is perfectly satisfactory. However, in dealing with intellectual characteristics (though not, as a rule, with temperamental) psychologists and teachers, as we have seen, like to postulate definite mental abilities with a positive influence only, and to explain the distinction between literary and non-literary or mathematical and non-mathematical types by something very like a literary or mathematical 'faculty.' Regarded as a factor, such an ability, instead of having positive and *negative* saturations, will have positive and *zero* saturations only, i.e., it would enter into a limited group of traits only and be entirely absent from all the rest. Factors with these characteristics are called 'group-factors.'

To obtain factors of this kind, Thurstone 'rotates' the factors reached by what I have called bipolar analysis. I hold that the same result can be achieved by a direct calculation. But, whichever procedure is adopted, the lines of division between the groups of tests will in general be the same; and the factor-measurements, as before, will be weighted sums.¹

III.—THE NATURE OF THE FACTORS FOUND.

The stability of factors with different sets of tests.—If, however, a factor is just an average or a weighted sum of the several test-measurements, does not this convert it into a mere hotch-potch of whatever we like to put into our examination? And is not the nature of the factor bound to alter as a result from one inquiry to another, whenever we change

¹ The relation between the classification provided by bipolar analysis and the abilities suggested by group-factor analysis was illustrated in an earlier article in this *Journal* (IX, pp. 45-71); cf. also the bipolar and group-factor analyses of the Binet tests, described in a later article (XII, pp. 156-161).

our tests? In reply, I willingly admit, indeed I have repeatedly emphasised, that, unless we put the right tests into our battery, we are not likely to extract the right factors. However, if wrong or irrelevant tests have been inserted, we can generally trust the factor-analysis to eliminate them, *provided enough tests of the right kind are also included*; the wrong or irrelevant tests will simply receive a weight of zero.¹

It must be remembered that in factor-analysis we are not only sampling persons; we are also sampling tests. Hence the data to be analysed and the tests to be employed must be determined by the particular hypothesis to be examined. If we are seeking to verify the view that there is a single general factor of intelligence underlying all intellectual processes, then a reasonably large and reasonably representative sample of those particular processes must be included in the battery. Naturally, if we start with four or five tests only, the addition of further tests *will* alter the figures, just as if, in trying to determine say the average height of children at the age of 10, we begin with only four or five children and then add two or three more. Once such a factor has been definitely established, we may preserve stability by constructing a standard test (or set of tests) which may serve to measure it in different inquiries, like the Binet tests and the commoner group-tests for general intelligence.

The identification of the factors.—But how, it is asked, do we know whether a general factor or group factor really is a factor of intelligence or of memory ability? The answer is that, whenever any question of this kind arises, the experiment must be carefully planned in advance so as to yield decisive evidence for or against the various alternative hypotheses. There are two useful checks that are frequently neglected. First, an introspective study should always be made of the processes entering into each test-performance. Secondly, it is wise, wherever possible, to procure independent assessments of the supposed ability from a competent observer: thus, in my own early efforts at factor-analysis, I obtained independent judgments from the teachers who ranked all the testees for general intelligence, and at the same time picked out those who showed special merit, or special weakness, in verbal, arithmetical, or manual ability.² Whether the supposed 'ability' is *innate* or not must be settled by a special series of genetic researches.

The relative importance of factors.—In the early days of factor-analysis, as we have seen, doubts were continually thrown on the very existence of all other factors besides the general factor. Investigators asked: "Are there, or are there not, additional factors

¹ One writer asks: "Before we can say whether an ordinary correlation is of zero-value or not, we compare it with its probable error: is there no similar criterion for determining whether a factor-saturation is, or is not, significantly different from zero?" I believe that the solution is to be found in applying the 'chi-squared test,' which, as many readers will know, often takes the place of the older probable error technique. For those who are interested I may briefly say that the principle is to partition the total value of chi-squared among the independent factors and their saturations. This would give, as an approximate criterion for the significance of the p th factor:

$$\chi^2 = \frac{1}{2} \left\{ (\sum_j r^2_{jp})^2 - \sum r^4_{jp} \right\} (N-3)$$

with $(n+1-p)$ degrees of freedom; and as the critical ratio for the saturation of the q th test with the k th factor $r_{qk} \sqrt{\frac{1}{2} (\sum_j r^2_{jk} - r^4_{jk}) (N-3)}$. (For a more rigorous test with large correlations, certain minor modifications have to be introduced.)

² Here may I reply to a correspondent who asks why, in earlier work, I based my group factors on the 'partial correlations' rather than on the simple 'residuals.' The answer is: first, I wished to demonstrate the kind of correlations that would arise among comparatively homogeneous batches of children—pupils on much the same level for general intelligence (such as those in a special m.d. school or in a well-selected class or form of an ordinary or secondary school); secondly, I had secured at the same time direct correlations for each test with independent assessments of general intelligence and had shown that these empirical correlations agreed very closely with the calculated saturations. The enlarged coefficients produced by the partial correlation procedure therefore seemed at once legitimate, and necessary to my problem; and they were entitled to the higher significance which the smaller probable errors resulting from the enlargement would bestow. Only when independent confirmation is thus available does it seem valid to judge the significance of factors by the probable errors of the *partial* correlations (instead of by those of the *residuals*)—a proposal explicitly put forward by McNemar (*Psychometrika*, VII, pp. 9-18) and also implied by Lawley's procedure (*Brit. J. Psych.*, XXXIII, pp. 172-5).

besides the inevitable G (i.e., general intelligence)? " And, because, with the small groups then tested, the evidence for such supplementary factors was swamped by the probable errors, most writers followed Spearman, and answered with an uncompromising "No." No one nowadays would put the issue in that way. Everyone admits the existence of more specialised factors. And the real problem therefore becomes: "What is their relative importance?"

The reply can be given by simply stating the average factor-variance. This is calculated by squaring the factor-saturations, summing the squares, and dividing by the number of tests thus summed. Thus, in the example given above, the average variance is

$\frac{1}{3}\{.986^2 + .834^2 + .798^2\} = .768$ for the general factor, and

$\frac{1}{3}\{.122^2 + .481^2 + (-.603)^2\} = .204$ for the second factor; so that the general factor is about four times as important as the bipolar (the absolute figures are here a good deal larger than usual). Usually the figures are given in the form of percentages rather than of decimal fractions; they show the relative extent to which each of the several factors is responsible for the mental differences observable between individual pupils.

It was by calculations of this type that I reached the figures cited in Table I of my last article (this *Journal*, XIII, p. 132). I there showed that at 10-11 years the 'general factor' of intelligence usually accounts for about 36 per cent. of the amount of individual variability, and that no other factor contributes more than 9 per cent. At the age of 12-13 the general factor contributes only 28 per cent.; specialised abilities, like verbal and arithmetical capacity, contribute 11 to 13 per cent., but manual or technical ability still only 6 per cent. Hence the proposal to classify children at the age of 11+ primarily on the basis of special aptitudes is equivalent to suggesting that they should be classified according to differences, the very existence of which has often been questioned, and which, if they do exist, can have very little importance at this age, and may prove to be more or less transient.

Analogies between faculties and factors.—In the various inquiries carried out by investigators both in this country and in America, much the same factors have repeatedly emerged. I think it is fair to say that the results go far towards confirming many of the speculative conclusions expressed in the faculty doctrine of the old scholastic writers. First, the two main general factors of 'intelligence' (*g*) and 'emotionality' (*e*) seem to bear out their bipartite division of the mind into 'cognitive' (intellectual) and 'orectic' ('appetitive' or temperamental) aspects. Secondly, on the intellectual side, there is now a general agreement on the supreme importance of 'intelligence'; and by this is commonly understood an ability that manifests most plainly in what the older writers would have called the processes of reasoning, i.e., the apprehension and use of relations.¹ Thirdly, the group-factors so far established are not unlike the more specialised faculties: the best attested appear to represent verbal, arithmetical or numerical, technical or manual, spatial or observational, æsthetic, and musical abilities: and to these some investigators would add memory, speed, constructive imagination (fluency), and various forms of reproductive imagination (visualisation, etc.): nearly every one of these appears in the list of faculties compiled by Gall from earlier writers. Fourthly, on the temperamental side, the distinction of extravert and introvert, optimistic and pessimistic types, is suggestive of the old fourfold classification of temperaments.

On the other hand, most factorists do not nowadays regard their factors as separate causal powers lodged in definite material structures: they regard them rather as descriptive terms, providing convenient bases for classification and prediction. Nor do they think of them as simple, unanalysable and sharply demarcated units. Most of the factors appear to be complex and subdivisible, and tend (at any rate in the case of group-factors) to show an appreciable overlapping. Thus they are not single or elementary qualities, but rather patterns of performance; not ultimate properties of the mind, but rather provisional categories, often (like other principles of scientific classification) relative to the

¹ THURSTONE, however, writes: "So far we have not found any conclusive evidence for a general, common factor, but some situations may be found in which such an interpretation is justifiable."—(*Primary Mental Abilities*, p. vii).

problem in hand. Thus factor-psychology is at once more empirical in its methods and more elastic in its conclusions than faculty-psychology.¹

IV.—SUMMARY.

(1) The essential aim of factor-analysis is to convert measurements for a large number of correlated traits or tests into terms of a small number of uncorrelated factors. Thus the factors of the psychologist are primarily principles of classification.

(2) To a large extent, though not entirely, the psychological factors so far determined by factor analysis agree with the broad principles of classification adopted in traditional 'faculty psychology.' They can, however, claim the advantages of being based on a more adequate analysis, of being verified by quantitative experiments, and of providing flexible descriptive categories instead of resting on the dubious hypothesis of fixed and ultimate causal agencies or 'powers.'

(3) The measurements of the factors are simply averages or weighted sums. For the 'general factor' we seek the best-weighted average of all the measurements contained in the data observed; for a 'bipolar factor,' the best-weighted average of the residuals left after the preceding factors have been deducted; for a 'group factor,' the best weighted average of the residual measurements found in a limited group of related tests or traits.

(4) It follows that the nature of each factor discovered by a particular analysis depends essentially upon the nature of what is averaged. Accordingly, in planning a factorial research, a proper sampling of the tests or traits is as essential as a proper sampling of the population tested. Under these conditions, if the measurements factorised are obtained from an adequate selection of cognitive tests, the general and the group factors may fairly be regarded as cognitive 'abilities.' But all factors are not *necessarily* abilities. Whether a given factor may be plausibly identified with a given 'ability' is a point that should receive confirmation by first-hand introspection, by independent assessments, and by other devices.

(5) If the test-weights are determined in accordance with the principle of least squares, the significance of a factor and of its saturations can be estimated by the partition of the observed value of chi-squared in proportion to the squares of the several factor-variances (with a correction for the loss of the communality).

¹ Prof. Thomson, I suspect, will once again gently deprecate the "atmosphere of scholasticisms" that I have evoked (cf. this *Journal*, XI, p. 45). To save misunderstanding, may I therefore add that I cite these analogies between 'faculties' and 'factors,' not because I think the resemblance gives added value to the set of factors postulated, but rather to remind contemporary psychologists that many of the logical controversies which they are continually raising amongst themselves have already been largely fought out in the earlier critical discussions of the old scholastic doctrine. Indeed, the arguments which Prof. Thomson has himself brought against Spearman's tendency to 'reify his factors' are almost identical with arguments that the Occamites with their razor brought against the Thomist treatment of mental 'faculties' as 'real entities' and 'causal properties' of the mind.

DISTRIBUTION OF INTELLIGENCE IN U.P., INDIA.

BY SOHAN LALL, ALLAHABAD.

I.—*Subjects and test used.* II.—*Distribution of I.Q.'s by sex, religion and caste.* III.—*Distribution by regions and by profession of parents.* IV.—*Summary.*

I.—SUBJECTS AND TEST USED.

THIS investigation is based on a survey of intelligence of children of 11+ in Classes VI and above of all the Government high schools of the United Provinces of Agra and Oudh, India. Children in Class V and below were left out because they did not possess enough reading ability to react to the test used. It was due to the co-operation of the Department of Education of the Province that this investigation could be carried out.

The test used was a verbal group intelligence test constructed in Hindustani after the pattern of Moray House tests. It includes items on classification, analogies, instructions, mixed words, time and space relations, opposites, codes, essentials and number and letter series. It was printed both in Hindi and Urdu scripts.

The children were tested on the same day and at the same time throughout the province by teachers who were previously trained for the purpose. Printed standardised instructions were sent out with the scripts so that the same words were used by all teachers in administering the test. As the children are not used to this type of test a practice test was given to them before they took the actual test.

Children of fifty-eight schools from fifty-four different cities were tested. These are located in every part of the province, including the innermost regions of the Himalayas. One teacher from the hills had to travel for five days by pony, bus and train to reach the centre where he was to be trained. All the teachers were trained by the investigator himself.

The total number of children tested was 1,419. Out of these 1,385 are boys and thirty-four are girls. The small number of girls is due to the fact that the Government high schools for girls are very few as compared with such schools for the boys.

The test was standardised on these 1,419 children assuming the standard deviation of I.Q.'s to be 15.

The reliability of the test, calculated by the split-half method, is .94.

II.—DISTRIBUTION OF I.Q.'S BY SEX, RELIGION AND CASTE.

The histogram of the distribution of I.Q.'s together with the normal probability curve fitted to it is given on next page.

The tables given below give distribution of intelligence according to sexes, religions, castes, geographical regions, and professions of the parents of the children tested.

TABLE I.—SEXES.

<i>Sex.</i>	<i>Mean I.Q.</i>	σ	<i>N.</i>	σ_m
Boys	100.55	15.69	1385	0.42
Girls	100.09	14.18	34	2.43

TABLE II.—RELIGIONS.

<i>Religion.</i>	<i>Mean I.Q.</i>	σ	<i>N.</i>	σ_m
Hindus	100.96	16.09	1084	0.49
Mohammedans	99.19	14.07	335	0.77

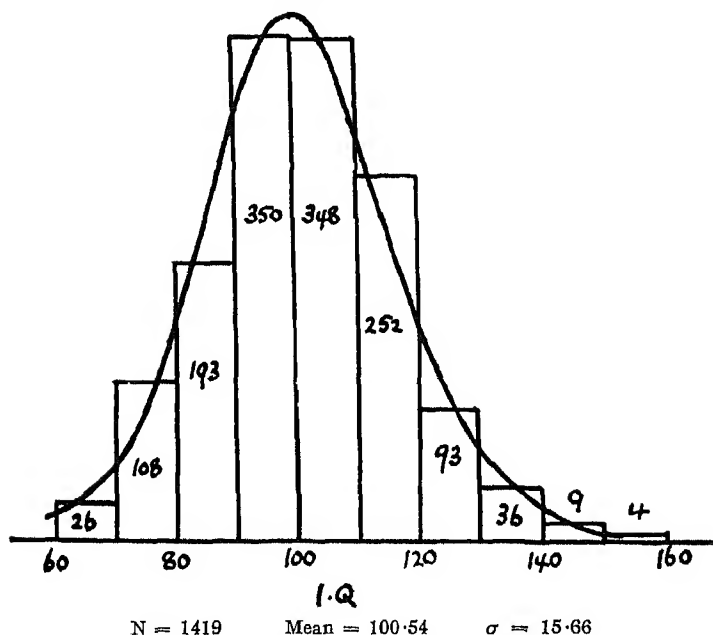


TABLE III.—CASTES.

Castes.	Mean I.Q.	σ	N.	σ_m
Brahmins	102.00	14.77	284	0.88
Kayasthas	101.49	16.98	356	0.90
Kshatriyas	101.07	15.36	166	1.19
Vaish	99.37	16.75	187	1.23
Sudras	95.44	11.00	32	1.94

It is a matter of dispute as to which of the four major castes the Kayasthas belong. They themselves claim to be Kshatriya and perhaps some would claim even to be Brahmins. It was considered best therefore to keep them separate. They are a caste practically every member of which can read and write. Considerable numbers of them hold high positions in civil services and the learned professions. They did the same under the Mohammedan kings.

III.—DISTRIBUTION BY REGIONS AND BY PROFESSION OF PARENTS.

TABLE IV.—GEOGRAPHICAL REGIONS.

Regions.	Mean I.Q.	σ	N.	σ_m
Eastern Plains	101.62	16.12	534	0.70
Northern Hill Region	101.56	15.54	68	1.88
Southern Uplands	100.87	14.33	113	1.35
Western Plains	100.40	15.38	386	0.78
Tarai	98.81	15.36	318	0.68

A word of explanation may be added about 'Tarai.' It is a belt of land lying at the foot of the hills, has a damp malarious climate, and is full of forests. The Northern Hill Region refers to the cities in the Himalayas.

TABLE V.—PROFESSION OF PARENTS.

<i>Professions.</i>	<i>Mean I.Q.</i>	σ	<i>N.</i>	σ_m
Medical Profession ✓	105.86	15.75	44	2.38
Legal Profession	104.91	15.39	122	1.40
Teachers ✓	103.91	16.34	61	2.09
Service	100.96	15.94	728	0.59
Zemindars	99.67	15.50	118	1.43
Cultivators	98.97	14.09	38	2.29
Business Men	96.53	14.16	192	1.02

Service generally includes administrative and clerical jobs in the Government or other local bodies. Zemindars are the land-owning class who live on the earnings of the land. Cultivators are peasants. The only differences which are statistically significant at the 1 per cent. point are the following, shown in Table VI.

TABLE VI.—SIGNIFICANCE OF DIFFERENCES BETWEEN THE MEANS.

<i>Description.</i>	<i>D.</i>	σ_D	D/σ_D
Brahmins and Sudras	6.56	2.13	3.08
Service and Business Men	4.43	1.18	3.75
Legal Profession and Business Men	8.38	1.73	4.84
Medical Profession and Business Men	9.33	2.59	3.60
Business Men and Teachers	7.38	2.33	3.17

Of the remaining possible pairs, eight are significant at the 5 per cent. level, namely, Kshatriyas and Sudras, Sudras and Kayasthas, Tarai and Eastern Plains, service with legal and also with medical profession, Zemindars with each of these professions, and the medical profession with cultivators. All other comparisons fail to be significant even at the 5 per cent. level, including, for example, boys and girls, Hindus and Mohammedans.

*Gifted children and mentally-defective children.*¹—If we define the former as those with I.Q. 130 or above, they formed 3.24 per cent. of the whole. Those with I.Q. below 70 formed 1.62 per cent. of the whole. The actual numbers were as follows (Table VII):

TABLE VII.

	<i>N.</i>	<i>M.D.</i>	<i>Gifted.</i>
Brahmins	284	3	12
Kshatriyas	166	2	4
Vaish	187	3	9
Sudras	32	0	0
Kayasthas	356	9	20
Other Hindus	59	0	0
Mohammedans	335	6	1
	1419	23	46

¹ It should be remembered that "children of 11+ in Class V and below were left out," so that only children of I.Q. below 70 who had nevertheless been promoted are here included.

IV.—SUMMARY.

A verbal group intelligence test in Hindustani after the pattern of Moray House tests was given to all children of 11+ in Classes VI and above in the Government high schools of the United Provinces of Agra and Oudh ; 1,419 children from fifty-eight schools, some deep in the Himalayas. Tables are given showing the mean I.Q. and standard deviation for boys and girls, for Hindus and Mohammedans, for five castes, five geographical regions, and seven professions of the parents. No differences between regions were statistically significant at the 1 per cent. point, and among castes only that between Brahmins and Sudras. The children of ' business men ' were significantly lower in average I.Q. than those of lawyers, medical men, parents in Government and administrative posts, and teachers ; but these did not (at this level of significance) differ among themselves, nor from peasants or landlords. Hindus did not differ from Mohammedans, nor boys from girls.

A LIST OF RESEARCHES IN EDUCATIONAL PSYCHOLOGY AND TEACHING METHOD.

PRESENTED FOR HIGHER DEGREES OF BRITISH UNIVERSITIES FROM 1918
TO THE PRESENT DAY.

Classified according to Dewey's Decimal System by
A. M. BLACKWELL,
Department of Education, University of London King's College,
With a Foreword by F. A. CAVENAGH.

PART III.

ERRATUM.

In the middle of page 47 of Vol. XIV, Part I, the name Cavaye, O. R. A., is incorrect, and should read "Oliver, R. A. C."

Vol. XIV, Part I, February, 1944, p. 48, "Amma, C. P. K., The effect of memory training, . . . etc.," should read: "Amma, C. P. K., The effect of nursery training on the response of children in the Merrill-Terman tests."

- (2) ENGINEERING—Ability in Engineering.
See under Space Perception. 159·93752.
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(To be continued.)

PROCEEDINGS OF THE EDUCATION SECTION OF THE BRITISH PSYCHOLOGICAL SOCIETY.

THE DISCLOSING OF INTELLIGENCE TEST RESULTS TO SEMI- AND NON- PROFESSIONAL PERSONS BY PROFESSIONAL PSYCHOLOGISTS.¹

(1) This subject was ventilated at a meeting of the Education Section of the British Psychological Society on 19th February, 1944, when papers were given by Dr. Vernon and Mr. Gibbs, and many persons contributed to the discussion, including Dr. Philpott, Miss Simmins, Dr. Seth, and Miss Dunsdon. Although no formal resolutions were passed, there was a wide measure of agreement, and the following summary of some of the main points might, perhaps, form a basis for a series of recommendations which the Committee of Professional Psychologists (Mental Health) could, after further consideration, issue to its members for their guidance. Advice should also be sought on these proposals from other experienced psychologists.

(2) Interest in intelligence tests is increasing, and some psychometric concepts like the intelligence quotient are coming into common parlance, with grave risks of misinterpretation. Professional psychologists, nevertheless, must have some means of expressing the results of their examinations, which they can pass on to:

- (a) Psychiatrists and social workers on the staffs of their clinics.
- (b) School teachers, probation officers and magistrates, and (in the Services) executive naval and army officers.
- (c) Parents and other interested persons, including, on occasion, the testees themselves.

Members of Group (a) can generally, though not always, be trusted to understand and interpret test results correctly. The psychologist's findings can sometimes be communicated to members of Group (b), but they usually need additional explanation and guidance in interpretation. Still greater caution is needed with Group (c).

(3) In general, the direct numerical results of tests (either scores, mental ages, or I.Q.'s) should not be disclosed (except occasionally to members of Group (a)), but should always be embodied in a verbal report or case study which places them in perspective in relation to the testee's personality as a whole, and points out their educational or vocational significance. Professional psychologists should make every effort to see that I.Q.'s and the like are not abstracted from their reports and quoted in isolation. Nor should any test results be quoted without mentioning in full the tests employed (e.g., Terman-Merrill I.Q. or Matrix Selection Group, not just I.Q. or S.G.).

(4) While thus maintaining the greatest caution in his communication of technical terms it is up to the professional psychologist to enlighten intelligent members of all the above groups whenever possible about their correct application. To keep all technical matters entirely secret would be an unfortunate attitude to adopt. Further, he should be on the look-out for examples of incorrect usage and interpretation, and do his best to educate persons who misunderstand. The names of persons who are making grossly erroneous and harmful use of tests and psychometric terms, and refuse to be corrected, should be sent to the Secretary of the Committee,² with full details.

¹ A report prepared by Dr. P. E. VERNON of a meeting of the Education Section held on Saturday, February 19th, 1944, at Tavistock House South.

The decision was made to publish this report in order that professional psychologists and other interested persons who were unable to attend the meeting might have the opportunity of expressing their views before any recommendations are formulated.

Correspondence should be addressed to the Hon. Secretary, British Psychological Society, Education Section, 192, Woodstock Road, Oxford.

² Honorary Secretary, Professional Psychologists' Committee, British Psychological Society, Tavistock House South, London, W.C.1.

(5) Considerable restrictions are desirable in the use of the term I.Q. for the following reasons :

- (i) Even when determined by a single test, e.g., Terman-Merrill, it is somewhat unreliable, having a probable error of about ± 4 . It is liable to change markedly in very young children and adolescents, especially over long periods.
- (ii) Different tests yield different I.Q.'s, either because some are inefficiently standardised, or because their standard deviations or spreads of I.Q.'s differ.
- (iii) Tests made up of different types of items (e.g., Terman-Merrill as contrasted with group tests, verbal as contrasted with non-verbal) measure somewhat different abilities and so naturally give even more discrepant results.
- (iv) An adequate solution of the problem of calculating adult I.Q.'s and of allowing for the deceleration of mental growth between about 12 and 17 years, has not yet been found, so that all I.Q.'s based on chronological ages above 11 years are particularly dubious.

Testing is only too likely to fall into disrepute if magistrates and the like come across examples of inconsistent and contradictory I.Q.'s.

(6) It is recommended :

- (i) That the term be confined to the results of an individual test, such as the Terman-Merrill, among children and the Wechsler-Bellevue among adults, and that even if this is agreed the names of the tests should always be attached in reports.
- (ii) That I.Q.'s should scarcely ever be communicated to teachers unless they are well-trained psychologically. Mental ages and educational ages are of far greater value to the teacher, since it is these, not the I.Q. or E.Q., which determine what school class a child is fitted for, and whether he is working above or below the level to be expected.
- (iii) That I.Q.'s which are to be communicated to non-professional persons should never be calculated from a single group test, though occasionally the results of a thorough battery of group tests might be expressed in this way.
- (iv) That whatever the test, or battery of tests, the I.Q.'s should always have a S.D. of $16\frac{1}{2}$, i.e., the same as that of the Terman-Merrill scale. (As Thomson has shown, when tests are standardised so as to provide a stated S.D., the I.Q.'s may no longer be equal to $100 \times \text{M.A.} / \text{C.A.}$. But this is not a serious drawback. The I.Q. is better considered as a sigma or standard score for intelligence than as an index or ratio based on rate of mental growth).

(7) It should be possible to arrive at an alternative method of expressing test results which would be less open to the weaknesses mentioned in Section 5 than the I.Q. The following possibilities deserve consideration :

- (i) Numerical scales based either on the probable error of scores (e.g., $+3\text{P.E.}$, $+2$, $+1$, 0 , -1 , -2 , -3), or on their standard deviation in a representative population. A rather coarse grading such as this with about seven points would have considerable advantages from the standpoint of reliability. Moreover, Army experience has shown that a 6-point scale is readily accepted and grasped by the layman. Decimal points could, of course, be added by the professional psychologist who needs a finer grading. Disadvantages are the extreme difficulty of building up really representative samples for standardisation purposes, and the infrequency with which most current tests yield sufficiently normal distributions.

- (ii) It would therefore be generally preferable to normalise distributions arbitrarily, and to establish the chosen grades or points on the basis of percentiles rather than S.D.'s or P.E.'s. For example, a 9-point scale of I.Q.'s could be better obtained by taking the following percentile groups, rather than by assuming that the I.Q. steps shown in the accompanying table (each equal to $.73\sigma$, where $\sigma=16\frac{1}{2}$) are all of the same size.

Points or Grades.	Per cent. of normal Population.	I.Q. Limits.
1	Top .. $\frac{1}{4}$	143+
2	Next .. $2\frac{1}{4}$	131—42
3	Next .. 10	119—30
4	Next .. 21	107—18
5	Next .. 32	94—106
6	Next .. 21	82—93
7	Next .. 10	70—81
8	Next .. $2\frac{1}{4}$	58—69
9	Bottom .. $\frac{1}{4}$	57—

- (iii) A similar percentile system has been used for all Army and Navy tests, the divisions between the S.G.'s or groups being defined by:

Top 10 per cent.	S.G. 1	or	A Group.
Next 20 per cent.	" 2	"	B "
" 20 per cent.	" 3+	"	} C "
" 20 per cent.	" 3-	"	
" 20 per cent.	" 4	"	D "
Bottom 10 per cent.	" 5	"	E "

Admittedly this grading is almost unduly coarse, and the 1, 2, 4, 2, 1 proportions do not approximate as closely as one would wish to normality.

It is not essential with such scales to ensure that the sample is truly representative of the whole population. Thus the Navy has different A, B, C, D, E norms for seamen and for officer candidates. In many branches of civilian testing also norms relative to particular populations are desirable, e.g.,

Rural schools as contrasted with urban;
 Secondary schools as contrasted with central schools;
 Children of different ages.

For example, instead of stating that a child of C.A. 11 has an M.A. of 14, or an I.Q. of 127, we would say that he fell in the A (or other high percentile) group for his age.

- (iv) Assuming that it is possible to reach an agreed numerical basis along the lines of (ii) or (iii), it is still necessary to find suitable 'labels' which we can assign to the various grades. Actual percentiles are not satisfactory, both because they are somewhat difficult to explain, and because of the variations in sizes of units at different parts of the percentile scale. A numerical scale like the S.G.'s, a letter scale, or verbal labels, are all possibilities. A numerical scale is perhaps the least open to criticism, provided that it can be adopted unanimously and used by all professional psychologists.
- (v) Letter scales are open to the objection that the letters already tend to have fixed educational connotations. For example, B often means average, and C low. Even if such a scale as A+, A, A-, B+, B, B-, C+, C, C- was substituted for A, B, C, D, E there would still be risk of confusion with other already existent letter standards.

- (vi) Verbal scales, such as Terman uses, are attractive, and the following labels were suggested for the 9-point scale tabulated under (ii), above :

Very superior, superior, bright, above average, average, below average, dull, borderline, retarded.

There are many strong objections, however. The layman may regard bright as better than superior ; bright is also often used with a temperamental significance ; average, as used by the layman, often means considerably below the average ; and even if the words mental defective are omitted, there is risk of confusion at the bottom end between any label referring to intelligence and one referring to social adequacy. It seems unlikely that any other verbal scale could be devised which would be unanimously acceptable.

- (vii) A wish was expressed for a more functional type of terminology, related to educational, occupational, etc., standards—e.g., secondary school or university grade, unskilled labourer or artisan group. Objections are that we do not know sufficiently accurately what are these standards on our tests, that the standards are likely to differ considerably in different contexts, and that so many other factors besides intelligence enter that they might be as misleading as calling, say, I.Q.'s below 70—"Mental Defective." Probably, then, it would be better to decide on a suitable numerical scale, and to establish later the positions on such a scale that the required standards lie.

SUMMARIES OF RESEARCHES REPORTED IN DEGREE THESES.¹

*Thesis in fulfilment of part of the requirements for the Degree of Ed.B. in Glasgow University,
September, 1943.*

Enuresis and Problem Children: A Study of Some Factors Bearing upon Child Guidance Work.

By THOMAS SMITH.

Two groups of problem children, 200 in each group, taken from the case-files of child guidance clinics in the Glasgow area, were compared. One group consisted of enuretics, with or without an additional problem. The other contained no cases of enuresis. The findings were as follows:

- (1) Enuretics had a significantly lower mean age-of-reference, i.e., the age at which the children were first reported to the clinics.
- (2) Enuretics had a significantly lower mean I.Q. Enuresis was found at all levels of intelligence; most often associated with normal intelligence; more frequently with backward than with outstanding intelligence.
- (3) The enuretic group displayed significantly fewer occurrences of:
 - (a) Left-handedness, squinting and stuttering (taken as a group).
 - (b) Theft, truancy and wandering from home (taken as a group).
 - (c) Disabilities in reading, spelling and arithmetic (taken as a group).In sub-group (c) above, only children of normal and above normal intelligence were considered.
- (4) No significant difference existed between the two groups in respect of:
 - (a) Parental anomalies, such as illegitimacy, adoption, step-parents, etc.
 - (b) Disharmony between the parents, irrespective of the presence of disharmony between the child and his parents.
 - (c) Patterns of family composition. A finding of general interest in this connection was that problem children tend to come from families where males preponderate, not, however, merely because there are more males than females under the age of sixteen in the general population.
 - (d) House accommodation, i.e., the number of rooms per family.

In connection with the treatment of enuresis, there was given a summary with comments of recent literature on the subject. It was argued that psychological factors alone, i.e., the effects of faulty training, could not always explain the cause of the disability. If they could then the incidence, not only of enuresis but of soiling also, would be very much higher than it is. Many varieties of early training must have operated in the case of children in this survey, who, coming from practically every type of school in the Glasgow area, represent a wide range of economic and psychological environments. Yet no significant difference in questions of overcrowding or parental anomalies was found between the two groups.

A prior tendency to inco-ordination on the physiological level must be assumed for the enuretic, and so treatment must always be two-fold: the resolving of the psychological conflicts on the one hand, and, on the other, the strengthening of the bodily mechanisms involved in enuresis by the induced, deliberate, conscious control, during waking hours, of the urge to micturate, so that future crises may not find expression in that particular way.

¹ These Outlines must be submitted through the Head of the Department in which the research was carried out.

BOOK REVIEWS.

Crime and Psychology: By CLAUD MULLINS. (Methuen, Ltd., pp. xvi+234. 8s. 6d.)

Mr. Mullins will be remembered as a pioneer in the systematic application of psychological principles to ordinary court work. This realistic and practical plea for the extended use of professional psychologists in almost all cases involving adults as well as children, is written with the authority of wide professional knowledge of the operation of the law and objectively reported experimentation carried out over a great number of years.

We have only one criticism to offer. It concerns the rather uncompromising attitude towards the services of the lay-psychologist. Medical psychologists, Mr. Mullins points out, are amenable to discipline by the General Medical Council. He omits to state that the possession of a medical degree is no guarantee of sound psychological training.

Mr. Mullins is critical of the operation of the law in very many cases. He demonstrates quite clearly the clashing conceptions of punishment which exist—not alone in the lay mind; and points out the grave weaknesses of the jury system, especially when confronted by expert evidence (such, for example, as the encephalogram). His discussion of the McNaughton rules and the question of responsibility is admirable; and his criticism of the East-Hubert Report must be acknowledged to be just from the practical view point. Among his constructive proposals, very many of which he has tested in practice, are a plea for therapeutic measures after conviction as well as an extension of them during probation, and a suggestion that constructive punishment should be linked with the probation system, and the establishment of a new type of court for dealing with sexual offences against children.

Throughout the book Mr. Mullins illustrates his contentions with case histories and does not shrink from an analysis of his own failures. Indeed, the lucid sanity with which he steers a middle course between the doctrines of the various schools, and shows how the vast body of commonly accepted knowledge of the human mind can be brought to bear now on the whole legal system, makes his book of considerable social importance.

The Social Psychology of Education: By C. M. FLEMING. (Kegan Paul, Trench, Trubner, and Co., Ltd., pp. viii+110. 7s. 6d.)

This valuable book is addressed to all who "have tried to educate even on one day." Dr. Fleming begins with the assumption that neither pupil nor teacher can be considered in a vacuum, that each is the product of a series of groups and subject to daily changing forces. She proceeds to an analysis of the influences shaping the child and the teacher, illustrating her thesis with relevant and pointed case studies, and insists throughout that, although much of mental endowment is innate, behaviour is modifiable to a greater extent than some have conceded. Nor does she omit, unobtrusively, to point the sociological moral.

From more philosophic and abstract themes she passes easily to advice on matters of practical importance—the psychology of learning, the emotional foundations of attention, the school report, the problem child, sex instruction at adolescence, the effect of the cinema, the influence of working in a group, how a teacher can train character as well as feed the intellect. The advice given is not vague generalisation but the well-digested and undogmatically asserted result of much research.

The book does for the social psychology of education what May Smith has done for industrial psychology, Vernon for mental measurement, and Macrae for vocational guidance; it presents in small compass and comprehensible form the extensive and authentic findings of research in a way that can be used by the layman. Each page, though packed with facts, is eminently readable, clear and lively. There are constant references to a comprehensive and up-to-date bibliography. No one can read the hundred odd pages of the book without receiving the impression that the contribution of psychology to education is very great.

W.D.W.

A Landmark in English Education: By H. C. DENT. (University of London Press, Ltd., pp. 24. 9d.)

The New Education Bill: By H. C. DENT. (University of London Press, Ltd., pp. 32. 9d.)

In these two concise pamphlets the Editor of the *Times Educational Supplement* discusses the White Paper on educational reconstruction and the new Education Bill in a practical and realistic way. Many of the suggestions put forward in the earlier publication—notably the speeding up of the time-table of reconstruction—have been embodied in the Bill; and in neither pamphlet is sight lost of the point that what is wanted is reform and that no quibbling over sectional interests should be allowed to impede the progress of the Bill on to the Statute Book. Most typical of the author's view-point is his sane outlook on the dual system and the thorny problem of religious instruction in State and non-provided schools.

In neither of the two pamphlets is there anything strikingly original. Such was not their author's intention. But both, the first as a series of constructive proposals and the second as a critical exegesis of the Bill, are well calculated to further the cause of educational reform.

The Human Factor in the Army: Some Applications of Psychology to Training, Selection, Morale and Discipline: By C. W. VALENTINE, M.A., D.Phil. (Gale and Polden, Ltd., pp. ix+94. 2s. 6d.)

This little book deals with various applications of psychology to military organisation, including individual differences and selection of personnel, methods of instruction, mental health, formal drill and other factors in morale and discipline. Several chapters are based on memoranda prepared for the War Office Department of Training, founded largely on questionnaires answered by about 100 of the author's former students now in the Army. Written by an expert on education, it is a most valuable criticism of methods of instruction in the Army, and it is not surprising to find in it a great deal of very helpful matter for any one whose duties include instructing—and that embraces nearly everyone. I have read it from cover to cover with the greatest interest.

I am glad to think that some of the more serious adverse criticisms are applied to methods and systems now rapidly disappearing. That they ever appeared at all is, I think, because of the lack of trained instructors at a time of very rapid expansion.

The chapter on the selection of N.C.O.'s deals entirely with the infantry; and, of course, very different considerations prevail in selecting N.C.O.'s in other branches of the Army. I feel that perhaps too much prominence is given to the relation of formal drill to co-operation and obedience (Chapter IX). Also I should have liked to see a chapter on saluting. The author regards it as a "somewhat pleasant custom when good sense avoids excess of it." After nearly thirty years' experience I think it is more than this.

H.T.B.

The Case for Examinations: By J. L. BRERETON. (Cambridge University Press, pp. 226. 8s. 6d. net.)

The author of this interesting little book on a vitally important subject writes "from the point of view of one who has been concerned for sixteen years with the examinations of a single University Examining Body, and mainly with the science side of that work." His book is divided into two parts: the first, general and historical; the second deals with proposals for reform. In the former the author discusses "Incentives to Learning," "Standards of Attainment," "Links in Education," "Development of Examinations Before 1911," and "School Examinations, 1911-1942." In the second section the topics dealt with include "Development of Syllabus," "Regional Joint Examinations," "Less Academic Subjects," "The Board of Education's Part." As the book was nearly finished when the Norwood Committee's Report on "Curriculum and Examinations" was published the author has added a chapter containing many scathing criticisms of the section of the report dealing with examinations.

Mr. Brereton's expert knowledge of secondary school examinations, at least as an administrator, is apparent throughout the book. Many readers will probably find themselves unable to follow the author to all his conclusions and may justifiably ask whether the title of the book is not too wide, and, consequently, misleading.

E.C.C.

The Revision of the Stanford-Binet Scale: By Q. MCNEMAR. (Harrap, pp. 185. 10s. 6d.)

This book reports an extensive statistical analysis of the data obtained in the standardisation of the new Terman-Merrill tests. Professor Terman writes the first chapter, which forms an admirable introduction to the rest of the book. He stresses as an important finding by Professor McNemar the fact that "at no level do the tests measure a medley of factors as some have believed; everywhere there is one factor that stands out clearly with only occasional and none too reliable evidence for a second or third factor."

Separate chapters deal with such topics as sex differences; the spread of individual performances; urban-rural, occupational, and sibling relationships. Some minor points which are nevertheless of interest to all testers are the following: the general intelligence factor may be involved in the same test to different degrees at different ages; different group factors may occur at different age levels; some tests for a higher age are easier than some allocated to a lower age.

There are many detailed tables which will be of special interest to statisticians.

OTHER PUBLICATIONS RECEIVED.

- The Future of Medicine*: By D. STARK MURRAY. Pp. 126. (Penguin.)
Venereal Disease in Britain: By SYDNEY M. LAIRD. Pp. 80. (Penguin.)
Soviet Science: By J. G. CROWTHER. Pp. 191. (Penguin.)
A Modern Elementary Logic: By L. SUSAN STEBBING. Pp. 214. 8s. 6d. (Methuen.)
Basic Christianity: By H. D. A. MAJOR. Pp. 71. 3s. 6d. (Blackwell.)
The Inward Animal: By TERENCE TILLER. Pp. 60. 3s. 6d. (Hogarth.)
Democratic Ideals and Reality: By H. J. MACKINDER. Pp. 155. (Penguin.)
Soviet Light on the Colonies: By LEONARD BARNES. Pp. 288. (Penguin.)
The Hands of Children: By JULIUS SPIER. Pp. 179. 16s. 6d. (Kegan, Paul, Trench, Trubner.)

SOCIAL DIFFERENCES IN ENGLISH EDUCATION.*

By T. H. PEAR.

I.—*Purely psychological discussions of this subject are rare.* II.—*The writer's sources of information.* III.—*Classification and signs of social strata.* IV.—*'Functional,' 'Glamour,' and 'Snob' prestige.* V.—*Class privileges and class manners.* VI.—*Alleged advantages of some types of manners.* VII.—*Social differences between and within universities, colleges and schools.* VIII.—*Defects of some Oxbridge and Redbrick manners.* IX.—*Debates and realistic discussions.*

I.—PURELY PSYCHOLOGICAL DISCUSSIONS OF THIS SUBJECT ARE RARE.

SOCIAL differences in English education are frequently mentioned, perhaps oftener in writing than orally. The sentences are apt to have a political tinge; usually of distaste. This does not prove the presence of almost universal discontent with the *status quo*, for people who like the English social set-up feel no overpowering desire to write about it. This fact has not escaped the notice of friendly foreigners. Of our social stratification Clifton Fadiman observed in the *New Yorker* "the folks on top probably like it better than those on the bottom." And Åse Grude Skard, musing upon the observation that a hen who has pecked her way to the top of her hierarchy remains (while she stays in that company) gracious and poised, added "like an aristocratic lady."

English social stratification occasionally interests modern historians¹—though some are expert in by-passing the subject—and, apparently with more effect, economists.² A psychological approach to the subject is rare. Psychologists, however, are blameless for the innocence of psychology displayed by the framers of the Norwood Report,³ and of the White Paper on education.⁵ "From the rash and impetuous American viewpoint" (Mr. Fadiman again), "the English educational system, to our innocent eyes, has always seemed caste-ridden and money-dominated." Yet there has been a taboo upon considering psychologically these aspects of the system.

Now, to break taboos may cause a delicious blend of youthful delight and fear, and this may account for the diverting style of some books written by destructive critics of English education. Yet few writers have attempted even to state the relevant problems as they appear to social psychologists. Anyone doing this has no easy task. For example, he must be prepared to discover, record and, if necessary, discount his own social prejudices, especially those concerning the nature of morale⁶ and leadership.⁷ I discussed some of these necessities in the *Sociological Review*.⁸ The present paper begins where the other left off.

II.—THE WRITER'S SOURCES OF INFORMATION.

Making no claim to a mentally aseptic attitude towards social differences, I will describe my sources of information. First—and to anyone but a behaviourist, foremost—personal, subjective. Clearly I cannot divest myself entirely of my own frame of reference; temporal, spatial, social, economic, æsthetic, nor is there any implicit assumption that in writing what is to follow here I am completely and continually aware of this frame. I will try to sketch it roughly. I was born, brought up in and have often revisited the county of Norfolk, some parts of which (e.g. between King's Lynn and Holkham) are highly stratified socially, while others (e.g., the Fens) have few layers. I lived in London for four years. After this I studied six months at the University of Würzburg, then went to Manchester for six months and to Giessen University for four. Since then, with many interludes, I have lived in Manchester. For the last three sessions I have also been attached to the staff of Liverpool University.

* Presidential Address to the British Psychological Society, Glasgow meeting, 1st April, 1944.

For twenty years I have taken a special interest in the psychology of speaking, and especially in those problems of social psychology which centre around Standard English⁹ and the objections sometimes raised by other English-speaking nations to a few of our 'accents'.¹⁰ The social stratification of clothing has not escaped my notice, since it is important in the psychology of advertising and public relations. I claim no special powers of observation in these spheres, and in this article am likely to show blind spots which many readers will notice.

It might be mentioned that no living English professional psychologist appears to have come from any of 'the' great public schools (some sturdy folk still say there *are* only seven), Charterhouse, Eton, Harrow, Marlborough, Rugby, Westminster, Winchester. Perhaps this may have a simple psychological explanation. Anyhow, we lack an account of the social psychology of their masters and pupils, written by someone who not only sympathises with but 'empathises' their special culture-pattern. We lack, too, a corresponding description of his way of living by a proletarian psychologist. Until recently, as is well known, our English social psychology has been written by the middle class about the middle class.

I have observed social behaviour for several years in many circumstances. Though I have not 'functionally penetrated'¹¹ many social strata to any depth or for any long time, my duties have continually brought me into relationship with people of very different classes, for Manchester contains more social strata than might appear to a casual visitor.¹² I was a tutor of the Workers' Educational Association for twenty-six years. Though it is an old jibe that W.E.A. students are atypical because they *are* W.E.A. students, from them I learnt a great deal when their attitudes differed from my own.

It has long been a delight to read books by non-English people about England (including the latest, and perhaps the most brilliant, that of Professor D. W. Brogan). I have encouraged friends from the U.S.A., Canada, Australia and New Zealand to speak and write to me about aspects of English society strikingly different from their own and freely to distribute praise or blame. I have also collected the views of fervent English equalitarians and inequalitarians, sincere if less articulate.

In this article there is no attempt to be immediately useful. Assuming pure science to be a reality, the present approach is 'pure.' There will be no judicial summing up. My own belief, if it interests you, is not alarmingly original; it is that it might be wise to study certain manifestations of behaviour by the leisured classes, in case some of the traits underlying them prove to be worth preserving.¹³ Their ways of expression might then be spread more widely so that others could share them; as a result, following the general principle of increased production, the attainment of these virtues may become much cheaper and available to anyone possessing the intelligence necessary to achieve them.

Further problems arise because opinions about the relative advantages of different systems of education (they may provisionally be distinguished as expensive and inexpensive) have not been examined to filter off from them, if possible, some workable psychological concepts. Note, for example, the Norwood Report's assumption that 'tradition' (unspecified) is desirable and should be maintained, that Society must 'correct the bias' (how?) against schools which train for the 'design and craftsmanship side of industry,' that the grammar school has a 'prestige' (yet, curiously enough, when this refulgence becomes really dazzling, the word 'grammar' is usually dropped by the ambitious Head Master and Governors). Consider too, the assertion that the job of the public schools will still be to 'produce leaders'¹⁴ (quality again unspecified, though all the English must know now that 'Führer' is the German equivalent). And throughout such discussions there is apt to be confusion between outward and visible signs and inward and spiritual grace, i.e., between what I should term Personality and Character,¹⁵ though the fifty other meanings of Personality, to say nothing of those borne by *Charakter*, make this missionary effort difficult.

In this connection, if there were time, it would be profitable to consider the psychological nature of traits, and the bio-social aspect of personality; e.g., along the lines of Gordon W. Allport¹⁶ and Henry A. Murray¹⁷. For example, what one English observer

calls admiringly 'independence,' another may term 'truculence.' Again, apparently unfriendly manners shown by some members of a certain social class may be defended by them on the ground that the other class does not 'understand' this speech and behaviour. Some members of the other class may agree; others may think it does, only too well.¹⁸ In England many types of churlishness are forgiven by the English if the 'offender' is alleged to be 'shy.'¹⁹ All these are preliminary problems to any observer of English social classes.

It is important that characteristics of the upper and upper-middle classes shall be described as seen by members of the middle and lower-middle, as well as by the poorest classes. A wide difference of social stratum between observer and observed makes it much harder to perceive intelligently, or even to be aware of important subtleties of behaviour.²⁰ A social psychologist writes to me about his ignorance, when beginning his job, of the table-manners of poorer people with whom he lived, and of appropriate phrases to be used by them, e.g., when drinking a person's health. This caused solecisms which he later outgrew.

III.—CLASSIFICATION AND SIGNS OF SOCIAL STRATA.

It will be useful to employ with a slight addition the classification of social strata used by 'Mass-Observation'.²¹

A—Rich people.

C—Artisans and skilled workers.

B—Middle class—1.

D—Unskilled, and the least economically favoured or educationally trained third of our people.

Middle class—2.

What are the chief signs or characteristics of social stratum? First, let us consider those appealing to the 'senses,' to use a pre-Gestalt term. Here the A class has distinct advantages. To say this implies in no way that the D class as a whole is not good-looking, for beauty may exist in the eye of the beholder, yet few members of the D class would object to greater height and weight in their children, and many would be delighted if they could only afford to make themselves better-looking along the lines laid down so sternly in the advertising columns of the pre-war magazines. The rich and the poor are often distinguishable, for example, by the state of their hair and teeth. And to achieve such excellence costs money paid to milkmen, dentists, hairdressers.

It may be asked "Is not this a muddled view? What has appearance to do with education?" In theory, little; in practice, much. Many schools, for example, insist upon their pupils wearing certain types of clothes, and during the present clothes shortage, heads of certain preparatory schools have insisted upon parents giving up their own coupons to provide luxurious and unnecessary extras for their children. Moreover, when a commission is being applied for, especially perhaps in the women's services, 'looks' count.

In England, members of different social classes emit distinctive spoken sounds. There may be physiological causes of some kinds of C-and D-class voices, e.g., 'thick' speech may result from catarrh, tonsils, adenoids. The vague phrase 'upper class accent' blankets many distinguishable facts. In English speech, the marks of class are vowels, speech-melody and characteristic words and phrases: phatic, emollient, endearing or antagonistic. All these were illustrated when on the radio I heard Mabel Constanduros speaking as herself and not as several members of the Buggins family. I noticed the features of upper-class speech most easily on returning to England from Würzburg, where as it happens (but this is another story) I took a full course in psychology but heard no mention of social classes. When after this absence I suddenly heard characteristically A-class speech I found it novel, interesting and thought-provoking. Whether such 'accents' are called beautiful, 'cissy' or affected, whether they are admired or hated, they characterise many A-class people at the summit of English society.

'Voice,' however, is usually accompanied by gestures* (as anyone who has been disappointed by hearing a friend's voice on the radio will agree), posture and facial expression. In what ways can those be socially useful? Here I warn myself that it is hard

*Deliberately omitting these is an important negative gesture.

to treat this subject neutrally. My opinion is that for some forms of social mixing, certain facial expressions, gestures and postures are very desirable; some of them have a long and interesting history. I have recently been told that in committees of the National Union of Students, the 'best mixers' do not come from the A class. Yet it might be remembered that the N.U.S. has not attracted many of the richer Oxford and Cambridge undergraduates, some of whom might doubt the need for such a Union.

The particular patterns of total speech-behaviour which I have in mind make it possible, almost or entirely unconsciously, to show friendliness towards very different types of stranger. Like the semi-professional bonhomie of members of royal families, it was learned as a technique, but after some years it becomes functionally autonomous. In broaching or discussing matters likely to arouse strong emotion such 'manners' can be especially useful. Their absence is, I am told, frequently noticeable in municipal councils, the members of which may have had no practice in exercising them. I have observed their value as lubricators in discussions where the use of a technique no more honest but less gracious by others, seems to have infuriated people who naturally employ it themselves.

In our society, such speech-behaviour is often useful in giving directions or commands. We may notice the assurance of many ex-public school boys who, after a time in the business world, now hold in middle age positions of authority under the Government. Their 'manner' is often useful in carrying out the Chairman's function at meetings, as it seems suited to all parties. This is not surprising as it may follow very old traditions. It can, however, be used as a velvet-coated bludgeon against opponents who lack a repertory of politely-offensive phrases.

How far to-day are these observations true of any country other than England? Would reading this last page amuse or irritate an Australian or an American? If so, would this fact seem more serious to the English now than it did in 1939? Answers to such questions are probably desirable; cf. the assertion that the way in which the English case was put in America in 1939 was hardly successful, one reason being the 'cissy' accents of some of the speakers. In the anti-democratic countries, Mussolini and Hitler encouraged a special kind of equalitarianism for their own purposes. William Shirer's account in *Berlin Diary* describes the fraternisation of Nazi officers with privates when off duty in Paris. American soldiers have recently described to me what seemed in my eyes a complicated type of fraternisation between officers and men in certain defined circumstances.

This is obviously a complex subject, yet I cannot help feeling that certain emollient phrases, stylised, as some of them must inevitably become, are useful in many social situations where difference of opinion is likely to be marked by warmth. Perhaps the bitterness of Australian party politics, which I believe is greater than that of our own, may owe something to a relative lack of such phrases.

Signals of social stratification may affect the other senses less, yet in peace-time, among the rich and the very poor, olfactory stimuli are effective. Expensive perfumes, particularly those with distinctive scents, are widely bought and their alleged psychological effects discussed or suggested in some magazines. Perhaps the deliberate taboo upon scent by certain 'intellectual' (or at least scholastic) women is a class-sign cutting obliquely across other social strata. A preference for heavy cloying perfumes perhaps marks off different nations rather than different classes. But dirtiness—in peace-time a class mark—may produce smells offensive even to equalitarians. Tactful signals of class need merely be mentioned; everyone knows the time and money spent in achieving and keeping softness of hands.

IV.—'FUNCTIONAL', 'GLAMOUR' AND 'SNOB' PRESTIGE.

It is useful to recall Miss Barbara Wootton's division of prestige into three classes: (1) functional prestige—disappearing when the particular function is not being exercised (cf., a policeman on and off point-duty); (2) glamour prestige—existing beyond the function in which the person is eminent (cf., popular interest in the views of a film-star upon the physiological effects of a particular brand of cigarettes, of a famous athlete upon

the conditions of world peace, of the B.B.C. Brains Trust upon psychology); (3) snob prestige, resulting merely from relationship (especially blood relationship) to a famous person.

Varieties (1) and (2) can exist without many of the outward and visible signs already mentioned; (3) I believe, cannot, except perhaps in the matter of clothes. Can a lord wear brown shoes with a blue suit? One at least used to, but he had functional prestige as well.

V.—CLASS PRIVILEGES AND CLASS MANNERS.

We pass now to some class privileges. First, cultural. For a century to the rich extensive travel has been possible and, in consequence, a wide range of enjoyment of music, art and literature. The B.B.C., C.E.M.A. (Council for the Encouragement of Music and the Arts) and similar institutions are now spreading this knowledge to others, and education in the Forces may develop better taste in these directions. Yet, until forty years ago, few of these cultural joys were possible outside the A and B-plus classes.

About social privileges volumes could be written, but I will select a few which seem of special psychological interest. One is the advantage of feeling unembarrassed in certain difficult situations. This is not necessarily synonymous with 'feeling at home.' An experienced private soldier when on duty working with a superior officer ought to feel unembarrassed since he 'knows the rules,' but he might not feel 'at home' with him when off duty, for many reasons, simple and complicated. Recently I happened to travel on a cross country journey in a train full of members of the Eighth Army going home on leave after returning from Africa. By chance, the first stage was made in a compartment full of high-spirited 'other ranks.' At a junction we all had to pile into the guards' van, which already contained several young officers. For many miles scarcely any soldier spoke at all and the relief when the two groups separated could be felt. I sometimes find myself in a railway compartment containing American 'other ranks' and one or two officers. Only the officers appear embarrassed. It seems, therefore, that inferiority complexes are not the only kind aroused in such situations.

We pass now to the social stratification of English manners. Little seems to have been written about them, or indeed about manners in general from a purely psychological standpoint, except by Thouless.²² There are plenty of descriptions of our manners—or lack of them—by non-English observers.²³ Yet most of them confine their remarks to the members of some one, usually the richer, class; probably because it costs money to stay in England merely to write a book about its inhabitants. We badly need an account of the English working classes and perhaps more, of the poorer white-collared class* by an unprejudiced outside observer, psychologically trained.

Now in considering any codes of manners, perhaps especially those of the English, it is important to distinguish between reciprocal and non-reciprocal obligations. Neglect of this often leads discussions wide of the mark. When the fighting services are cited as examples where stratification is necessary and accepted in order to get the job done, it is sometimes forgotten that the layers have reciprocal obligations, e.g., the private's salute must be 'returned' by a general, however inconvenient this may be. In civilian society, however, many obligations are non-reciprocal. The London waitress impresses foreigners by saying 'Kew!' for bringing a dish to the guest, who often enough does not express any thanks to her, or to his club servant.

Different kinds of 'manners' are distinguishable, e.g., those in which the 'good' or 'bad' behavior is (a) clearly aware of the salient details in his conduct, consciously directing it towards someone whose relations to him are clearly recognised, e.g., a private speaking to a captain, an official greeting another ceremonially, a practised host entertaining a stranger from another country, a receptionist in an hotel or office. Here the movements may be as stylised as in a dance; (b) habitual, semi-automatic manners (raising the hat, opening the door, saying 'please' and 'thank you'). These are often rigidly selective, the behavior identifying only the person who expects such manners. To the A and B

*Dr. Margaret Mead suggested this to me.

classes the C and D classes do not seem to possess, or at any rate to use, many of these techniques. The question whether a majority desire them or not seems disputed. They involve the ability to discriminate and recognise the 'proper' situation and to set in action appropriate muscular patterns including, especially, speech; (c) manners arising from partly conscious, partly unconscious sources, e.g.:

- (i) Showing sympathy towards an ill, unfortunate, neurotic, shy or taciturn person, or one with consciously or unconsciously noted resemblance to a prototype to whom, in early life, the behavior felt affectionate, protective or dependent.
- (ii) Showing antipathy; envy, jealousy of rank, wealth, clothes, beauty, youth or social technique, e.g., a woman who gets on well with her own sex may dislike or disapprove of one who gets on well with men.
- (iii) Exhibiting behaviour suggestive of inferiority complexes. I know of no book in which Adler's theory is linked up with that of culture-patterns,²⁴ though there is a hint of this in Professor J. C. Flugel's *A Hundred Years of Psychology*,²⁵
- (iv) Exhibiting behaviour suggesting other complexes, more difficult to label; e.g., those inspiring 'untidy,' 'unpredictable' conduct towards members of certain professions, such as the clergy, teachers, 'theatricals,' 'high-brows,' 'low-brows' (the choice of name may suggest a complex in the user), conservatives, communists, etc. The effect of such a complex is that the sufferer cannot be 'naturally' but only artificially polite and, therefore, may be unintentionally rude to people of a particular class. Almost certainly ambivalence of emotion is one cause. This seems true of some people's embarrassment towards the Anglican clergy, but not towards Nonconformist ministers. It is significant that in England Anglican, not the Roman Catholic or dissenting, clergy are 'guyed' on the music halls; perhaps, however, to a lesser degree now than a generation ago. The distinctive manners of the Society of Friends deserve a study for themselves.

VI.—ALLEGED ADVANTAGES OF SOME TYPES OF MANNERS.

Let us examine the alleged advantages of some manners of the A and B-plus class. First, they are said to possess a wider repertoire of suitable phrases; to display correct discrimination of the situation in which they are useful, and greater graduation of the response, i.e., what Dr. W. H. R. Rivers would have called epicritic behaviour. Some consider this as open to criticism. They hold that if such different manners are assumed only when the other person has been 'sized up,' it symbolises an undemocratic state of affairs which ought to be abolished. This is, of course, not a strictly psychological view. Others critics might hold that anyone who knew one of the other classes well could observe equally epicritic behaviour inside it.

So far, little comparison seems to have been made between the 'average' or 'typical' (these descriptions are not synonymous) manners of members of different English universities up to 1939. There may be special reasons for reluctance to describe and especially to compare them. Those who have spent time, money and energy in acquiring any special types of manner may not wish to mention them, still less to hear them described or dissected. Similarly people blessed with perfect teeth or first-class dentists may deprecate extra-mural discussion of the subject.

VII.—SOCIAL DIFFERENCES BETWEEN AND WITHIN UNIVERSITIES, COLLEGES AND SCHOOLS.

Perhaps for this reason there are few published accounts of the marked social stratification inside the University of Oxbridge; even inside some of its colleges. Social stratification also exists between the public schools themselves and inside some of the schools, Eton being a well-known example. It is often claimed that a public school education produces a special blend or *Gestalt* of qualities which might be possessed singly or, presumably in other blends, by boys from non-public schools.

I am prepared to take seriously the more restricted assertion that certain public schools produce in many of their boys a recognisable blend of characteristics. But some difficulties arise: can we equate Eton with Giggleswick? Mr. Donald Hughes's *The Case for the Public Schools*²⁸ describes the Leys, but is it typical? Some would smile even at the phrase 'girls' public schools,' but Dr. F. H. Spencer more than once warns us that it is meant seriously. A candidate for a commission in the women's services before 1940 would certainly have mentioned if she had been at Wycombe or Roedean, and anyhow her speech would obligingly have betrayed her. There appear to be no articulate public-school women rebels to set alongside Cyril Connolly, George Orwell or one half of Tom Harrisson.

The social stratification of the English university system—if it is a system—is well illustrated on school speech-days. The Principal's speech, after the usual thanks for the pupils' freedom from contagious diseases, describes scholarships won to Oxbridge. Even if the local Redbrick University is a stone's throw away, its turn comes later. Almost invariably the principal is an Oxbridge graduate, a fact often blazoned in gold outside the school, and if not from Oxbridge, probably from Scotland; a good wine which needs, or at any rate gets no bush. It is usual for the head of a school in a Redbrick town to exert considerable pressure on a bright scholar to proceed to Oxbridge with state and municipal scholarships, and to importune authorities for extra grants for this purpose. The head of a department in a Redbrick university may thus discover that for the last ten years he has been paying both taxes and rates to deflect, at an increasing rate, the brilliant scholars for thirty miles around, from his own lecture room and laboratories.

Probably the head master or head mistress would assert that the amenities, the beauty and the wider ranks of society from which the Oxbridge students are drawn justify this. Both sides in this conversation would tactfully and tacitly agree not to compare the teaching; indeed, this would vary with the subject, and there is always a certain amount of to-ing and fro-ing of staff between Oxbridge and Redbrick. But do the students always find Oxbridge's undoubted cultural advantages available? Let me quote from a letter from an academically distinguished teacher and writer, who is also a successful editor and organiser:

I went up to Oxbridge in 1925, to a small college chosen because it had the reputation of providing a university education as cheaply as possible. Fees were small and inclusive; there were not supposed to be many extras. On the economical side the college certainly lived up to its reputation. Undergraduates were well fed (breakfast, lunch and dinner in Hall), and reasonably though not luxuriously housed. But on the side of social and cultural life X was disappointing. The college stood some distance away from most of the others, and there was a general feeling of being rather out of the main stream of university life. One was less likely to make as many interesting contacts as at some of the wealthier colleges. Of course, within the college there was a fair sprinkling of the more well-to-do, mainly from the lesser public schools, and I think these, together with the more outstanding athletes from secondary schools, dominated most of the college societies. They certainly mixed more easily with men from other colleges, largely through the athletic clubs, etc. In my time X was doing particularly well on the river, and the rowing men not only enjoyed a particular prestige within the college but tended to have easier access to university life outside X.

But at X there was probably a larger proportion of poorer men than at other colleges, men who had come to work and get a decent degree with the minimum of expense, and I think they all shared a feeling of not quite 'belonging' within the university as a whole. I was certainly in this group, from which all my friends were drawn. I think most of us felt a bit envious of the wider social life (or so it seemed) of members of other colleges and the more well-to-do men at X. We kept too much to ourselves. And I think we all missed the opportunity of mixing with members of the women's colleges. We couldn't afford expeditions on the river or social functions that demanded a dinner jacket. My first dinner jacket was one of the extravagances I was able to allow myself as a result of winning a handsome scholarship at the end of my second year. Incidentally, it was as a result of this windfall that I was able to join the Union. 'Union activities' are, of course, of little value in themselves (even then I could see that the debating society was an anachronistic joke, a hang-over from the nineteenth century); but the Union has a good library and a good reading-room where I first acquired the habit of looking at the more expensive periodicals and the learned journals. None of my friends at X was a member of the Union.

Intellectually, X was a backwater. We were coached well enough for the practical purpose of making a decent class in the final examination and, of course, we attended university lectures. But within the college there was no 'current of fresh ideas,' and one was only rather dimly aware of what was going on in the larger world—in modern literature, for example, or even in politics and international relations. X, it is true, had an Intellectual Society, composed of dons and undergraduates, where papers were read and discussed; but it was largely dominated by the boat club, and to my chagrin, I was never invited to become a member, though men who a year or two later were to come to me for coaching got elected easily enough. And intellectually stimulating contacts outside the college were rare. In my third year a supervisor at another college invited those of us who were his pupils to his literary 'evenings,' and we were glad to go; but on the whole one never seemed to come across the more interesting members, senior or junior, of other colleges. (It should be remembered that since most of us came from small secondary schools which only sent one or two boys to the university each year, we hadn't the ramifications of 'connexions' that boys from 'better' schools had. (My impression is that very few men at X belonged to any of the intellectual societies within the university—though a large number belonged to the Student Christian Movement or to one of the other religious societies (I remember at least one stimulating meeting of the Industrial Christian Fellowship) and a smaller number belonged to the political clubs. (I think that at X the Conservative Club had the most members.) I should have liked to join the A's—a high-brow university society which did get interesting outside speakers and discuss interesting topics; but first of all, lack of money and then the fact that I didn't know anyone who belonged prevented me from joining.

The result of all this was that those of us with latent intellectual interests tended to form a little band that was much more limited, undeveloped and so to speak 'provincial' than it would have been with just a little more stimulus or a little more cross-fertilisation. Looking back, I can see that some of the obstacles to a fuller university life were by no means insuperable. It is true that when you have to debate anxiously before buying a book not strictly necessary for 'work,' even a five shilling subscription to a society looks like a luxury. But I think the obstacles were not so much economic as moral. We tacitly accepted the assumption that the college was of inferior status, and since we plainly weren't of the boating or athletic aristocracy within the college, there was nothing for it but to keep our noses down to the grindstone. And no contrary suggestion—no suggestion that we should raise our heads, look around and sniff a fresher air—was forthcoming within the college either from the dons or from any undergraduate tradition. We did get some education, and we educated each other a bit, but because of the cramped intellectual quarters in which we lived, we certainly didn't benefit from our undergraduate years as we might have done.

Bruce Truscott's *Redbrick University*²⁷ and Brian Simon's *A Student Looks at the Universities*²⁸ have, not surprisingly, caused useful discussion which may have noticeable results upon the minds of members of post-war committees concerned with university education. Before these books appeared, however, I was fortunate enough to have entrusted to me, for publication in any way I thought desirable, an article comparing the 'culture-patterns' of Oxbridge and Redbrick by a woman who had recently studied at both types of institution. She will here be called Miss Bodley (the choice of this name gives no clue whatever). By the omission of distinctive detail—even though this weakens the presentation—I have tried to disguise the actual old and new university in each case. Nothing has been added. The writer was up at Oxbridge from 1939-1942, at Redbrick 1942-43, all war years, it should be noted. The observation is by one person as; incidentally, most social descriptions have been until lately. Both Miss Bodley and I would welcome a 'mass observation' account of this period, if it exists. (Miss Bodley's paper extends from here to the end of page 125.)

Three fundamental factors largely determine the culture-pattern of Oxbridge University and thereby differentiate it from that of Redbrick, namely—tradition, the residential nature of the university and the environment. These factors do not exert independent influences, but at all times co-operate with and reinforce each other, forming a pattern of such complex ramifications that it is often impossible to trace back any one feature directly to its origin.

In any study of the university life at Oxbridge, a tradition of some eight hundred years cannot be lightly ignored. It predetermines many of the students' attitudes and customs

through having endowed the university with a national and international prestige; it accounts for much of the academic routine and obligations, and embodied in the historical buildings and age-old associations, it is permanently with the student.

Established, endowed and honoured by royalty, the university, up to the middle of the nineteenth century, served the aristocracy. They responded with a high respect for its learning and regarded it both as the centre for higher education and as a social finishing school for recruits for political and diplomatic circles.

Since then, the middle classes, rising on the tide of industrial prosperity, have tended to make wealth the condition for entrance. This, combined with the residential nature of the university, has established a tradition of high fees and expenses. This again necessarily limits the chances of entrance to students from the upper and middle classes. It has also given the title of B.A. Oxon or Cantab. a caste value out of all proportion to its significance as the achievement of a certain minimum standard of knowledge. But it would be quite unjustified to conclude from this traditional privilege granted to the possessors of wealth that the intellectual standards of the university have suffered. In a society based on a capitalist economic system, like that as existing in England to-day, wealth and intellectual ability must to a great extent exist together. The one is often the pre-condition to the other.

Tradition, environment and its residential nature all combine to foster an intense group consciousness, the outstanding feature in the culture-pattern of Oxbridge. The civic buildings are completely overshadowed by the world-famous colleges, chapels and libraries.

Redbrick University, on the other hand, has not this national position. It is essentially a local institution with a provincial status. It was established and financed not by members of the royal family but by wealthy and influential citizens for the purpose of providing higher education for the youth of the locality.

One of the largest cities in the country, one of the leading trading centres in the world, Redbrick can only allow its university a position equal to those enjoyed by other civic associations. Tradition and historical associations are influences to be found in the economic and social life of the city, not centred in the university. The connections between city and university are intimate and numerous, since, being non-residential, university life, city life and the home life of the students constantly intermingle and are largely inter-dependent. The absence of any traditional high level of fees has opened its educational opportunities to most classes of men and women, and although the university cannot secure as firm a group consciousness as exists in Oxbridge, it does in the long run serve to build up the group consciousness and civic pride of the locality.

A *residential* university such as Oxbridge entails from the student an almost complete severance with home and family life and their parochial associations. Each college is a unit of residence as well as a unit of education, and even if the student lives in lodgings, the presence of a hereditary landlady-class carries the college and university environment within the urban area.

Group consciousness, therefore, is not limited within strictly educational boundaries but extends over all the activities enjoyed throughout the day and night. Given a certain amount of observance of college and university rules, the authorities allow the student the maximum independence. He is not allowed to do no work at all, but beyond this his time is at his own disposal.

The *non-residential* nature of Redbrick University tends to give an entirely different form of student life. Most of its students are accustomed to the routine of day-school life, and the pattern of their university follows closely along these lines. The standards of the home and of the city life tend to have more influence on the student than that of his university, since many of the students will spend the rest of their lives in the district, and so home and city associations will be accepted as permanent.

Because of this, there is no clearly definable group consciousness attached to the members of the university, which maintains a somewhat precarious balance between the conflicting attitudes and values arising from family and urban life and the obligations due to these. Environment exerts a constant pressure on the students' life. The bustle and stir of everyday urban life eddies round the student all day; he comes to his daily lectures by tram, bus or train and returns by them in the evening. Once at home, the student may find his time pre-occupied with family duties and obligations and he may have few facilities for continuing his studies

peacefully. University life stops about six o'clock at night, and there are no college libraries open at night as at Oxbridge. At week-ends there is an almost complete cessation of university life.

Group consciousness at Oxbridge is reinforced by such external bonds as the wearing of academic dress by all students and senior members of the university. The cap and gown is a symbol of membership of the group and this is strengthened by the colourful and dignified academic ceremonies and traditional customs. The presentation of degrees, the procession of the Vice-Chancellor in his robes of office to the university sermon, the nightly progress of the proctors and 'bulldogs' round the town—all these may have little utilitarian value but they inspire a communal sense and stress the unity of the group. The possession by each student of a room of his own with the time honoured privileges of 'sporting his oak' ensures a high degree of peace and privacy, and the absence of daily contact with adult values and standards, coupled with the independence he is granted means that the student has the time, place and encouragement to assimilate and appreciate the meaning and purpose of the university.

A group consisting of young people, given the favourable circumstances which exist at Oxbridge, tends to possess certain characteristics which play vital parts in shaping the culture pattern. Among such a group, students will be more ready to adjust their values, habits and attitudes which they have acquired at home or school to those prevailing within the group. There is a strong desire to identify oneself with the group.

This can be seen most clearly in the behaviour of the new student who is possessed by a fear of being isolated by the common attitude of scorn and criticism towards a 'mere fresher.' So great is this fear that, despite his self-conscious pride in his new gown hanging in stiff folds, he is driven to rubbing it in the dust under his bed, or using it to draw his fire up or tie his books in, until it has achieved the desired appearance of honourable age and neglect. The characteristics of the public school are largely maintained and further developed in the culture pattern of Oxbridge. Like the schoolboy, the undergraduate enjoys defying authority, and every student is acquainted with the secret after-midnight exits and entrances to his college and with the skilled technique necessary for manoeuvring revolving spiked and eight-foot drops. Night Climbers' Clubs are illustrations of the undergraduate's desire to dignify what are originally only schoolboy escapades.

In the same way, the habits and clichés of the school playing field and debating society find their fullest expression in the athletic and political circles of the university. Many of the features of the culture-pattern are derived from the public school, owing to the arrested development of the adolescent which is the heritage of English youth. This characteristic of retarded adolescence is greatly encouraged by the students' sheltered existence and by the wide tolerance with which they are treated by the authorities. For three years the student can pursue all his whims and fancies; he can get drunk, and next day's hangover is considered to be sufficient punishment; he can read for Honours or a pass degree; he can run through every affectation known even to X College; he can be sober and serious, or flippant, but if he persists in defying authority he will be sent down, or if he persists in defying public opinion he will be 'debagged' or thrown in the river.

These childish and naive characteristics are created fundamentally both from the sheer delight in the unusual freedom of life and from ignorance of its true meaning. This is a side to university life which hardly exists at Redbrick. There is, of course, not the same amount of independence. Sheer high spirits and zest for life are hampered from finding or creating any pattern of expression by the restraining influence of the presence of adult values.

The *conversation* of Redbrick students is on the whole very much more practical, simple and honest than that of Oxbridge undergraduates, but the lack of a coherent and permanent group life does not allow for any opportunity for studying 'the art of conversation.' This has been over-ridiculed in connection with both Oxford and Cambridge undergraduates, but it must not be overlooked, because it does exist and it is an important feature in the culture-pattern.

The nature of the university is such that it encourages and fosters the mutual exchange of ideas and thoughts. Young people find more stimulus and enjoyment in discussing various problems and subjects with their own contemporaries than with those of an older generation; and when they share a communal life and have the facilities for entertaining friends in their own rooms, it is not surprising that the nights are spent in putting the world right. Oxbridge students, therefore, have few inhibitions in conversing, and generally possess after their three

years a fairly extensive if not very profound intimacy with all subjects. But there is also the tendency to pursue the art of conversation for its own sake, and to use phrases and terms for the sake of their air of elegance only. A great deal of futile conversation goes on which gives an impression of hypocrisy and superficiality.

Among Redbrick students, conversation is generally limited to academic 'shop' and university matters. Political and religious arguments are pursued with great intensity but their value is seriously diminished by the lack of any place in which a quiet discussion can be conducted. There are no coffee shops or tea shops close enough to the university to justify their monopolisation by the students, whereas in Oxbridge coffee at eleven is part of the daily routine. The general environment also is responsible for these differences in conversational technique and equally for certain differences in the political and social attitudes of the students. The peace and beauty of a moonlight night on the Cher or the Cam inevitably call forth the desire to ponder over the problems of philosophy or art. City slums at night stimulate only the fiercest socialistic, if not anarchistic, beliefs. Oxbridge undergraduates, therefore, will tend to be conservative in their attitudes towards society, though only a minority crystallise this tendency into political form.

Politically minded students of Redbrick will tend towards the Left rather than to the Right. Wealth, unfortunately perhaps, does play an important part in forming the average Oxbridge students' habits and behaviour.

He has no standard by which to value money, for unless he is up on a scholarship, the money he spends has not been earned by him, and there is no daily reminder of the implications of this fact by his parents. Money, therefore, slips rapidly through the students' fingers, because for the first time he is surrounded with every facility for indulging in all his whims and desires. There are shops catering specifically for the student, wherein tradition is more punctiliously worshipped than anywhere else in the university. Here the student is reminded that he is a 'gentleman,' and as such is entitled to the privilege of running up accounts.

The college servants all help in impressing on him the relation between wealth and social prestige by means of their traditional end of term tips—one 'scout-gyp' even referring to the students on his staircase as 'five bobbers', 'ten-bobbers', or 'quidders.' He proportioned the amount and quality of his services accordingly.

The student can spend his money easily and often unwisely by being attracted by the daring extravagance of the wealthier minority. He follows the fashions they set in dress; scorns the blue suit for gaily coloured corduroys and learns that bowler hats are never worn, trilbies very rarely and that tweed caps are reserved for hunting and racing men. Public opinion favours individuality in dress, especially a studied shabbiness and carelessness, but the extremes of sober respectability and exaggerated foppishness only arouse amusement.

The attitude towards drink is also largely the effect of tradition based on wealth. The college cellars have been famous for generations for their unique collections of wines and special ales, since the authorities, apart from consideration for their own pleasure, regard a knowledge of wines as part of a gentleman's education. The Dons at High Table, therefore, set the standard, and it is encouraged by the balls, suppers and college dinners. At the college buttery a student may purchase his drink, and only when his bill assumes alarming proportions is the buttery door closed to him. Even then, some public houses will still serve him.

Persistent drunkenness, however, is not tolerated either by the authorities or by student public opinion. It is an unwritten law that anyone may get drunk on certain 'agreed' nights, celebrating boat races, the end of examinations, and passing (or failing) finals. At all other times he is expected to exercise discretion. Drinking is very much more common at Oxbridge than at Redbrick, probably because the entertainment of one's friends is a more constant social obligation in a residential university. There is also greater variety in the types of drinking, ranging from beer at a riverside inn after punting to elegant sherry or punch parties.

Membership of many of the clubs in Oxbridge also entails a fairly high financial outlay, but the most expensive ones are deliberately so in order to preserve their class exclusiveness and, therefore, appeal only to the wealthy minority. Nevertheless, the cheapest dramatic society in Oxbridge demands a guinea a year and five shillings entrance fee from its members as compared with the half-crown subscription at Redbrick.

The day to day expenses of a Redbrick student receive no encouragement to amount to any large sum. There is no very strong competitive incentive to spend money exclusively on clothes or on entertaining. The fact that few students possess a room of their own, with complete

freedom to bring friends in at any time, explains much of the limited social life of the university. The social life of the Oxbridge student depends greatly on the spirit of competition in setting new standards in sherry parties, 'bottle parties' and river picnics—so much so that one popular student confessed to his tutor that he would have to fail his exams rather than lose his reputation as a good host.

Although to-day students from public schools have conceded the position of majority to those from secondary schools, the culture-pattern still owes many of its features to the public school, and so to upper-class influence. It will be a long time before they are eliminated. It is an upper-class characteristic which is revealed in the presence in Oxbridge of juvenile reproductions of certain West End clubs in London. The fact that cricket is the pre-eminent university sport has a similar origin. At Redbrick there appears to be an annual difficulty in raising a good cricket team, but their rugby teams have a high consistent standard. Cricket has very strong aristocratic associations. Although it is called the national sport it has been largely preserved by the upper classes and by those rural areas in which upper class tradition is embedded.* Rugby on the other hand has earned the popularity of the middle and lower classes; it is a sport more in tune with urban life, which finds cricket too slow and subtle.

Voice and accent among the students suggest other illustrations of class influences. The Oxbridge accents have degenerated into a music-hall joke—but, as with many other traditions, they are still alive to-day.

It is true that you can find some of the same accents in any public school—it is a distinct characteristic of the upper class. It is a form of intonation created for the expression of those thoughts, attitudes and sentiments attributed to the upper class. It has exaggerated vowel sounds and a bored lazy intonation because of the tendency of the average upper class person to inhibit his emotions, understate his thoughts and preserve immobile features.

At Redbrick there exists a preponderance of Northern accents which in style are appropriate to the pragmatic, less self-conscious and less subtle character of the lower middle class. The Oxbridge undergraduate is not demonstrative, therefore when conversing he may give an impression of studied effect—any gesture he uses will be schooled into an apparent ease. The Redbrick student thinks only of what he is saying, not of how he is saying it. Because of his secluded and free life the Oxbridge student has the opportunity of standing apart and seeing himself as a being. This is of tremendous educational value when it is achieved or used with a purpose, but for many students it entails a preliminary period of sheer self-consciousness. This is evident even in their conversation; all the 'hot air' which undergraduates pour out is an indication of this awareness of their own personalities. This is not in such great evidence at Redbrick. There the student is never given such unconditional personal and mental freedom as exists at Oxbridge—it is no platitude to say that 'he has no time to stop and stare.' Thus his conversation is more limited, more realistic, more aggressive and less pleasing to the ear. He does not listen to himself as he speaks, not see himself.

At Redbrick the *women students* are on an equal footing with the men and there is no incentive towards forming a purely feminine group. Possibly this explains the differences in the male undergraduate's attitude towards the women in the two universities. These class differences which have been observed at Oxbridge in the culture-pattern created by the men students are not so marked in the case of the women. But, in comparison with Redbrick, there does exist an upper class minority among the women.

Although the condition for entrance at Oxbridge is intellectual ability rather than wealth, yet the fact that the women's colleges are residential implies that only those of the upper and middle classes can afford to compete. At Redbrick, however, cheaper fees and the non-residential nature of the university allows women of nearly all classes to compete for entrance.

At Oxbridge the residential life allows for a greater degree of co-operation between the men and women over a wider range of interests than at Redbrick. There are time and place for achieving mutual friendships of an enduring quality. At Redbrick time and place are divided between home and university life. Friendship between the two sexes is largely regulated by the standards and values of the home, and in determining the culture pattern of their children's university, parents play a very much more intimate part than they are probably aware. Friendship between the men and women at Redbrick tends to be based upon common interests in work or upon purely social grounds. Conversation between the two sexes is nearly always limited to

*F. D. W. BROGAN, *op cit*, pp. 89-90.

discussions on work, university gossip or politics. Here again, this is partly the result of having nowhere to talk and the general influence of the environment. The beautiful surroundings of Oxbridge inevitably encourage romantic and sentimental attitudes, and a tendency towards forming platonic friendships, which would not survive for long in the severe realism of the environment at Redbrick. Also at Redbrick there is no strong majority of upper-class students whose class-culture tends to foster æsthetic and philosophic sentiments. The Redbrick students often prefer to choose women friends from outside the university, and it is noticeable that at dances their partners are not women students, but the more smartly dressed and attractive girls from among home acquaintances.

At Oxbridge, however, there is a sharp cleavage between town and university, and it is not considered 'correct' to bring 'town' girls to a university dance—daughters of dons or of important local residents, of course, excepted.

It is possible, therefore, to see the reason for the attitude of familiarity breeding contempt at Redbrick. When the men and women do meet on friendly terms it is usually at lunch time or tea time in a room which is crowded and noisy, and when time is limited either by lectures or the necessity to catch a bus or train. It is an enforced familiarity, and not a spontaneous friendship.

Upper class standards and customs tend to determine the general behaviour between men and women students at Oxbridge and their attitudes towards each other. The man is expected to be polite and courteous to the woman and 'social graces' are considered to be part and parcel of their general education. Social etiquette of this kind is not nearly as prevalent among the Redbrick students. Their rough and tumble daily routine partly explains this, also the absence of any dominating upper class standards. The communal social life almost entirely consists of faculty dances or 'hops,' and the general behaviour between the sexes is less mature than is the tendency at Oxbridge. The use of the word 'girl-friend' or 'boy-friend' is very common in the conversation of Redbrick students. The woman students refer to their opposites as 'the boys' and are in turn called 'those girls.' An Oxbridge woman student is much more likely to refer to 'the men' she knows, and the words 'boy' or 'girl' are usually used in a derogatory sense. This difference in behaviour and attitude between the two sexes is the result of many factors; wealth, home life, environment, group consciousness. It may also be due to the fact that at Redbrick there are no adult standards and opinions strong enough to compete with those of the students' parents.

There is very little opportunity at Redbrick for the student to mix with the senior members of the university. His tutor is often to him merely another type of schoolmaster to whom work must be submitted and whose lectures have to be attended.

Compulsory lectures are too akin to school lessons to mean much more to the average student. He tends to regard them as an evil necessity and behaves during them rather as he did at school. Compulsory lectures, by the way, in many faculties are the only academic reason why students should appear at the university at all. If lectures were not compulsory, many students would work at home and appear once a week to change their books at the university library.

Contact between dons and students at Oxbridge is necessarily facilitated by the residential nature of the university, and the tutor's advice can be sought on non-academic matters. Undergraduates tend to go to lectures in order not to take down a list of facts but to hear a certain lecturer's point of view. Very often students of one faculty will go to hear lectures in another faculty simply because the lecturer is well-known and his lecture will be stimulating. Note-taking during lectures, especially among arts students, is rather regarded as a habit peculiar only to women students and 'freshers'—both by the students and by the lecturers. Undergraduates at Oxbridge tend to have an attitude of respect towards the senior members—the result of tradition which has endowed the older universities with a hereditary line of professors of international standing. The research work of each professor, his or her thesis or latest publication, is always of personal, as well as of group, interest to the student. The coffee parties, sherry parties and informal discussion groups held by the dons in their rooms for students are a marked feature in the undergraduates' life.

On the other hand, the average Redbrick student who does not live in either the men's or women's hostels tends to form his opinion of his professor entirely from his contact with him in lectures or tutorials.

To these accounts I have little to add, except to lay stress upon :

- (1) The effect of social stratification, not only between different colleges in Oxbridge but sometimes in the same college ;
- (2) The Oxbridge *esprit de corps*, extending to material as well as spiritual matters. When an important post is to be filled in some Redbrick universities, there may occur a quite unconcealed and unashamed coagulation of an 'Oxford (or Cambridge) Group' already on the Redbrick staff. This habit, perhaps less strong now than twenty years ago, may weaken after the present war.

VIII.—DEFECTS OF SOME OXBRIDGE AND REDBRICK MANNERS.

- (3) One sees that sometimes a code of manners, developed as an adjustment to the special residential life of an Oxbridge college, is not only brought to Redbrick unchanged, but is applied to social contacts, even outside universities, for the rest of the graduate's life. This stylisation—not confined to men—does not always make for general popularity. Examples are avoidance of spoken greetings, often of visible signs of recognition when meeting or passing a colleague, closure of conversation by the sudden unheralded departure of the interlocutor, or by his taking up a book or paper, as soon as he has obtained the information he desired, or ceased to be interested in the answer. This causes the person's tempo, seen from the standpoint of others, to appear rather staccato. Occasionally, too, there seems to be a tendency, when asked a question, not to answer except in disagreement. Perhaps Cambridge graduates prefer to discuss facts ; Oxonians, views and opinions. This was asserted by one of England's most famous ethnologists about 1917, and I have seldom seen reason to disbelieve it since then.

A circumstance favourable to observations of this kind is that Redbrick staffs usually contain a high percentage of Oxbridge and Scottish graduates. Interesting and occasionally unpredictable cultural changes, too, can often be observed in a Scottish student who has been subsequently worked upon by Oxbridge.

As Miss Bodley notes, Redbrick students often lack satisfactory relationships with the teaching staff. The reasons given by her are cogent, and in certain Redbrick universities, there may be a specially powerful one, the local tradition of not 'sucking up' to authority. This is carried to the university from the schools. It arises, not necessarily out of antagonism, but because any personal approach to a member of the staff may be regarded by other students as toadying. My own impression is that the attitude grew much more marked between the wars.

It may be maintained that the Redbrick universities described by writers are apt to be Northern, and that the characteristics assigned to them are really Northern peculiarities, but since there are three in the South not yet described, a different picture might be drawn of them. This possibility is freely conceded.

The chief defect of Redbrick students seems to be the absence of a virtue which Miss Bodley attributes to many Oxbridge undergraduates. Except in certain individuals of Redbrick there is a regrettable lack of ability for urbane, polite discussion, of the kind which not only does not antagonise the *vis-a-vis*, but increases friendliness between the conversers. Among students, themselves, as we have seen, there is plenty of discussion, but its technique seems suited only to the students themselves.

Debates, too, are declining in popularity ; they are shunned by the best-informed students (especially by experts upon the particular subject debated). In the students' magazines of some Redbrick universities the debates are reported with sarcasm, cynical gloom and quinine-like bitterness ; this scarcely encourages any but pachydermatous extraverts to take part in them. Even at Oxbridge, however, the average student does not speak in or even attend debates. The influence of the Oxford Union is certainly double-edged, and in peace-time it leans heavily for support upon the London press. Its post-war future is difficult to predict.

IX.—DEBATES AND REALISTIC DISCUSSIONS.

A partial cure for this seems to be democratic discussions of a more realistic kind. Perhaps I may be allowed to quote from a letter of mine published in the *Manchester Guardian* on September 1st, 1943 :

The authors of the Norwood Report, "Curriculum and Examination in Secondary Schools," emphasise that the expression of thought in speech is socially important :

It happens too often that little stress is laid upon oral expression as a means of developing ease in social relationship . . . such practice and facility in expressing thoughts aloud in the presence of others as will lead to some degree of confidence and at least the appearance of ease of manner (page 94).

It is not clear why only pupils in grammar schools should enjoy such benefits as can be conferred by training in speech . . . it seems incontrovertible that the primary schools cannot divest themselves of responsibility (page 96).

These words are timely. Members of the staffs in some secondary schools, too, may wish that more of their pupils, if spared a little time from the excessive concentration upon writing essays which have "created in the minds of many pupils an unnatural habit of thought and expression," could develop, through group conversation, greater ease and effectiveness in social relationships. To make the machinery of a democratic community more efficient—and this means increasing government by committees—we must offer direct training in the techniques of discussion. These are quite unlike the pyrotechnic skills used in debating 'both sides' of a question, previously mangled flat by its framers. Social problems are usually polyhedral. To solve them requires the amicable exchange and re-exchange of views guided by constructive aims.

'Expressing thoughts aloud in the presence of others' ought to be influenced by the awareness that the hearers may hold different views ; to be expressed and respected later. The light frolics or heavy sparring of the debating society, though they may occasionally alleviate the term's seriousness, involve methods of another kind. As many successful debaters honestly acknowledge, the game is too easy, and success goes to the head. Have not Ministers recently been reproved for attempts to make mere debating points on serious issues in Parliament? Too frequent debates inculcate habits and attitudes which often are not shaken off till middle age, if then. The clever speaker for his side, when his school challenges another to a debate (note the implications), may become the ligneous type of M.P. who pains even his own party. He is not always a Blimp, or lovable.

The plea is often made that debates are fun, they stir up interest in a dull subject, allow the play of English humour, and encourage speakers who otherwise might blush unseen. One may reply (in no debating mood) that this kind of fun is often double-edged, 'funny' subjects being occasionally tragic to the minority, that the very wording of a question for debate can be used to ridicule the subject publicly, that group discussion also encourages interest and humour, often of a higher grade, and that shy speakers enter more readily into honest discussion. Experts can rarely be persuaded to debate their subject in public with those who know little of it, and, for obvious reasons, a subject which seems dull to one class may interest another.

The signatories of the report are to be thanked for hauling down to earth the unattached adjective 'English,' which has been dragging its cables too long. English speech is a form of social behaviour. To acknowledge this officially by changing examination requirements would offer the schools new opportunities for making responsible citizens when democracy has won the war.

I end by expressing my fullest agreement with Professor Brogan's opinion :

Politically England is a democracy, perhaps the most mature democracy in the world. But democracy is not merely a matter of government—it is an attitude to life. And England will not be a full or anything like a full, democracy as long as one of the kindest and most united peoples in the world is internally divided in a fashion that impoverishes the national life.

X.—SUMMARY AND CONCLUSIONS.

1.—Purely psychological, as distinct from political or economic, discussions of this subject are rare, yet in the eyes of foreign observers, social differences in English education are one of its outstanding aspects.

2.—The writer describes his own sources of information and attempts to treat the subject from the standpoint of the pure psychologist.

3.—The mass-observation classification is employed.

4.—Signs of social stratification, class privileges and class manners are described and discussed in detail.

5.—The alleged advantages of some types of manners are discussed.

6.—First-hand detailed descriptions show the marked social differences between and within English universities, colleges and schools.

7.—It is suggested that some varieties of Oxbridge and Redbrick manners when transplanted are *gauche* or ineffective.

8.—One factor making for true democracy would be the cultivation of realistic discussion in schools and colleges.

9.—England may be the "most mature democracy in the world. But democracy is not merely a matter of government—it is an attitude to life."

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MOTIVES FOR THE CHOICE OF THE TEACHING PROFESSION BY TRAINING COLLEGE STUDENTS.

By WILLIAM B. TUDHOPE.

I.—*The Background to the Problem.* II.—*Description of the Method.* III.—*The results.* IV.—*Relative Weights of Worthy and Unworthy Motives.* V.—*The More Important Motives Influencing Training College Students:* (i) *The attractions of a secure job*; (ii) *Fondness for children*; (iii) *Interest in a special subject*; (iv) *Desire to continue one's own education*; (v) *The possibility of doing good*; (vi) *Good salary*; (vii) *The remaining motives.* VI.—*The age at which the choice is made:* (i) *The importance of knowing when the choice is made*; (ii) *The wish to become a teacher*; (iii) *The decision to become a teacher*; (iv) *Stage in school at the time of decision.* VII.—*Conclusions.*

I.—THE BACKGROUND TO THE PROBLEM.

SOME years ago the Head Master of a Senior Boys' School published this uncompromising statement: "Unfortunately there is no principle followed in the selection of teachers. Candidates enter because they usually cannot afford the fees of qualification in other professions, and teaching becomes the last resort. Drawn usually from a brave though uncultured stock, bent to a mean and sterile prostitution of learning in the Secondary School, further continued at the Training College, they betray no enthusiasm for the creative and adventurous work before them, seeking academic distinction mainly for financial reasons."¹ At a time when plans for educational reconstruction demand for their fulfilment a large increase in the number of teachers, it is obviously important to understand the motives which have influenced teachers to choose that profession in the past, in order that we may judge more accurately the worthiness of these motives as a first step in making the teaching profession more generally attractive. An understanding of these motives could be applied in two distinct ways, first by enabling the more worthy motives to exert their influence in a much wider sphere, and secondly by attempting to secure that the less worthy motives did not burden the profession with unsuitable members. The study of motives for the choice of the teaching profession has been undertaken on two previous occasions, once² in the case of the motives of school pupils who wished to enter the teaching profession and again in the case of the choice of the teaching profession by University students.³ The present enquiry concerns itself with the motives which influenced a group of Training College students to choose the teaching profession.

II.—DESCRIPTION OF THE METHOD.

The enquiry was made amongst 643 students in training at a two-year Teachers' Training College; it included 216 men students, 244 women students training for Junior and Senior School work, and 183 women students training for Infant and Junior work. After preliminary discussions with groups of students about possible motives which had influenced their choice of the teaching profession, a list of seventeen motives was compiled, similar in many respects to the list submitted by Valentine in his enquiry.³ This list was then submitted to each of the 643 students, who were asked to select motives which had influenced their own choice and to mark them 1st, 2nd, 3rd, etc., in the order of the importance of their influence, adding if desired any other motive which did not appear in the list. All replies were given in writing and, of course, anonymously, in order that

¹ "Character Training in School," article by Corlett in the *New Era*, April, 1940.

² Cf. article by F. M. Austin on the "Motives for Adolescents' Choice of Teaching," in Vol. I, No. 1 of this *Journal*.

³ Cf. article by C. W. Valentine on "Reasons for the Choice of the Teaching Profession," in Vol. IV, Part III of this *Journal*.

students might not be tempted to over-emphasise more worthy as compared with less worthy motives. In analysing the results, attention was paid first to the motives which were marked as most important, the number of times each motive was marked first being expressed as a percentage of the number of times it could have been put first. Secondly, attention was paid to motives included in the first three, again the number of times each motive appeared among the first three being expressed as a percentage of the number of times it could have so appeared. Finally, the motive given by a student as first was given 10 marks, the motive given as second 9 marks, and so on, with the result that a student who marked many motives weakened the relative score of his earlier motives. The total weighted score of each motive was then expressed as a percentage of the maximum possible score.

III.—THE RESULTS.

The replies of the men and women were analysed separately, as were the replies of the women training for Junior and Senior work and the women training for Infant and Junior work. The results are summarised in Tables 1, 2 and 3.

The first interesting point to note is that in each of the three methods used for ranking the motives in order of importance a strikingly similar result is obtained. Thus, the motive which was listed first by the greatest number of men was also listed amongst the first three by the greatest number and has the largest weighted score, and the same is true of the motive listed first by the greatest number of women training for Infant and Junior work. In the case of women training for Junior and Senior work the motive which was listed first by the greatest number ranks second in the frequency with which it appears in the first three and third in the weighted score.

TABLE I.
RELATIVE FREQUENCY AND WEIGHT OF MEN'S MOTIVES.
(No. of men : 216.)

	<i>Percentage Frequency with which motive put first.</i>	<i>Rank.</i>	<i>Percentage Frequency with which motive put in first three.</i>	<i>Rank.</i>	<i>Weighted Score as Percentage.</i>	<i>Rank.</i>
Secure job	24	1st	47	1st	59	1st
Interest in special subject	18	2nd	34	3rd	42	3rd
Fondness for teaching ..	13	3rd	33	4th	41	4½
Desire to continue own education	10	4th	27	6th	41	4½
Fondness for children ..	9	5th	36	2nd	44	2nd
Possibility of doing good	8	6th	30	5th	40	6th
Parents' wish	6	7th	26	7th	35	8th
Loan or grant making career possible	4	8th	9	10½	16	10th
Example of admired person	3	9th	9	10½	13	12th
Good salary	2	11th	19	8th	37	7th
Good holidays	2	11th	15	9th	34	9th
Nothing better to do	2	11th	4	13th	6	14th
Easy job	0	15th	5	12th	14	11th
Teacher's wish	0	15th	2	15½	5	15½
Enjoyment of feeling of power	0	15th	2	15½	5	15½
Improved social position	0	15th	3	14th	10	13th
Insurance against not being married	0	15th	0	17th	0	17th

TABLE 2.
RELATIVE FREQUENCY AND WEIGHT OF MOTIVES OF WOMEN (JUNIOR AND SENIOR).
(No. of women: 244.)

	<i>Percentage Frequency with which motive put first.</i>	<i>Rank.</i>	<i>Percentage Frequency with which motive put in first three.</i>	<i>Rank.</i>	<i>Weighted score as Percentage.</i>	<i>Rank.</i>
Desire to continue own education	19	1st	39	2nd	49	3rd
Secure job	17	2nd	37	3rd	53	2nd
Fondness for children ..	15	3rd	47	1st	57	1st
Fondness for teaching ..	13	4th	32	4th	37	6th
Interest in special subject	12	5th	29	5th	38	5th
Possibility of doing good	8	6th	23	8th	35	7th
Parents' wish	6	7th	24	6½	32	9th
Nothing better to do....	4	8th	5	11th	7	12th
Good salary	3	9th	24	6½	41	4th
Loan or grant making career possible	2	10th	7	10th	11	10th
Good holidays	1	11th	14	9th	33	8th
Easy job	0	14½	2	14th	6	13½
Teacher's wish.....	0	14½	2	14th	4	15½
Enjoyment of feeling of power	0	14½	1	16½	2	17th
Example of admired person	0	14½	1	16½	4	15½
Improved social position	0	14½	2	14th	6	13½
Insurance against not being married	0	14½	4	12th	8	11th

TABLE 3.
RELATIVE FREQUENCY AND WEIGHT OF MOTIVES OF WOMEN (INFANT AND JUNIOR)
(No. of women: 183.)

	<i>Percentage Frequency with which motive put first.</i>	<i>Rank.</i>	<i>Percentage Frequency with which motive put in first three.</i>	<i>Rank.</i>	<i>Weighted score as Percentage.</i>	<i>Rank.</i>
Fondness for children ..	31	1st	60	1st	69	1st
Secure job	20	2nd	44	2nd	53	2nd
Fondness for teaching ..	12	3rd	32	3½	38	4th
Desire to continue own education	11	4th	32	3½	30	7th
Parents' wish	6	5th	21	6th	32	5½
Good salary	4	6½	31	5th	46	3rd
Nothing better to do....	4	6½	10	9½	14	9½
Interest in special subject	3	8½	10	9½	14	9½
Possibility of doing good	3	8½	19	7½	26	8th
Good holidays	2	10½	19	7½	32	5½
Easy job	2	10½	4	12th	9	12th
Loan or grant making career possible	1	13th	6	11th	10	11th
Teacher's wish.....	1	13th	2	14th	7	13½
Example of admired person	1	13th	2	14th	7	13½
Enjoyment of feeling of power	0	16th	1	16½	1	17th
Improved social position	0	16th	1	16½	4	16th
Insurance against not being married	0	16th	2	14th	6	15th

If rank in the weighted score is taken as the best criterion of the importance of an individual motive, the motive which exercised the greatest single influence on the men was the secure job, a motive which was second in importance in the case of both sections of women students. The second most important motive to influence the men was fondness for children, a motive which is first in importance in the case of both sections of women students. It may thus be concluded that the two single motives which most influence both men and women to take up elementary teaching are the attraction of a secure job and fondness for children.

The seven most important motives to influence the men, secure job, fondness for children, interest in a special subject, desire to continue one's own education, fondness for teaching, possibility of doing good, and good salary, are also the seven which are most important in the case of the women (Junior and Senior), the most marked difference in rank being good salary, which is seventh in the men's list and fourth in the women's list. It may, therefore, be concluded that there is little practical difference between the main motives which influence men and women to take up teaching in a Junior or a Senior School.

The women who choose to teach in the Infant and Junior School, on the other hand, include in their seven most influential motives only five of these listed in the first seven of the men and women already considered, fondness for children, secure job, good salary, fondness for teaching, desire to continue their own education; the remaining two, good holidays and parents' wish, are more influential than those they have displaced in order of importance, the possibility of doing good and interest in a specific subject.

IV.—RELATIVE WEIGHTS OF WORTHY AND UNWORTHY MOTIVES.

If the seventeen motives considered in the enquiry be examined, it appears that seven of them are motives based on selfish considerations, good salary, good holidays, easy job, secure job, enjoyment of feeling of power, improved social position, and insurance against not being married. Five others, desire to continue one's education, interest in a special subject, fondness for children, fondness for teaching, and the possibility of doing good, are motives which display some sense of vocation and of social responsibility. The remaining five, loan or grant, nothing better to do, parents' wish, teacher's wish, the example of an admired person, would appear to be quite incidental, having reference neither to any selfish consideration nor to individual suitability. It was possible to find the combined weight of each group of motives, and the figures contained in Table 4 express each combined weight as a percentage of the total weight of all the motives together.

TABLE 4.
PERCENTAGE WEIGHT OF VARIOUS GROUPS OF MOTIVES.

	Men.	Women. (Jun. and Sen.)	Women. (Inf. and Jun.)
1.— <i>Selfish motives</i> , including good salary, good holidays, easy job, secure job, enjoyment of power, improved social position, insurance against not being married	36%	35%	38%
2.— <i>Incidental motives</i> , including loan or grant, parents' wish, teacher's wish, nothing better to do, example of admired person	17%	15%	17%
3.— <i>Desirable motives</i> , including the desire to continue own education, interest in a special subject, fondness for children, fondness for teaching, possibility of doing good	47%	50%	45%

The most striking point in Table 4 is the marked similarity in the weights of the different groups of motives for the men and for both sections of the women. It has been argued by some that men with the prospect of having wives and families to maintain are

more influenced by selfish motives in their choice of elementary teaching than are women, and by others that women with some prospect of marriage and consequent release from the profession would pay more attention to selfish considerations. It must, however, be concluded that men and women who choose to teach in the Infant, Junior or Senior School are actuated to practically the same extent by selfish, altruistic and quite incidental motives.

The second important feature in Table 4 is that desirable motives play almost as great a part as all other kinds of motives together. The harsh generalisation about teachers' motives for entering the profession through the Training College quoted at the beginning of this article is certainly not confirmed by the present findings.

By using the weighted figures for each original motive which Valentine found to influence University students,¹ it was possible in the same way to find the relative weights of selfish, incidental and desirable motives in their choice of the teaching profession. Table 5 shows the results obtained in the case of University students as compared with those of Training College students already quoted in Table 4.

TABLE 5.

PERCENTAGE WEIGHT OF VARIOUS GROUPS OF MOTIVES INFLUENCING UNIVERSITY AND TRAINING COLLEGE STUDENTS.

	Men.		Women.	
	University.	Training C.	University.	Training C.
Selfish motives	39	36	30	36
Incidental motives	22	17	19	16
Desirable motives	39	47	51	48

Thus the weight of the various groups of motives is remarkably similar in the case of both University and Training College students.

V.—THE MORE IMPORTANT MOTIVES INFLUENCING TRAINING COLLEGE STUDENTS.

(i) *The attractions of a secure job.*—The motive which exercised the greatest single influence on the men students and was ranked second in the case of the women students is the secure job. These young men and women have grown up during a period which was marked by a great degree of economic and social insecurity; many, if not most, come from the type of home and general environment where the results of such insecurity were likely to be most obvious; they see clearly that once established in the elementary school they will enjoy a permanent mode of life, a safe job and a steady income, which only the most flagrant inefficiency or misconduct will interrupt. It is therefore not surprising that the motive of the secure job points with such weight towards the teaching profession. But what of the implications for the children and the schools? Much of course depends on one's own opinion about the effects of security, whether it cramps initiative and stifles adventurousness or whether it provides that firm foothold without which any striving after initiative and adventurousness will be tentative and timid. It might be argued on the one hand that the conditions of the teaching profession are such as in the long run to cause the most adventurous spirit to sink into some kind of rut and that such conditions will have an even more unfortunate effect on those who were from the first attracted to the profession by the promise of a more or less placid security. Indeed many critics would see in this motive the reason for the absence of any marked sense of adventure or any keen desire to experiment in the teaching profession as a whole. On the other hand, it might be strongly maintained that only those who have no need to worry about their own personal or family security have sufficient courage and energy to tackle the problem of teaching large classes,

¹ Cf. article by C. W. Valentine on "Reasons for the Choice of the Teaching Profession," in Vol. IV, Part III, of this *Journal*.

to struggle against the effects of appalling home conditions and to undertake the many extraneous duties which now fall to the lot of the ordinary teacher.

However that may be, since the motive of the secure job is undoubtedly most influential, it remains for us, if we are to secure the great number of teachers now so urgently required, to extend the limits of the social and economic security of the profession so that the motive may appeal more widely to many men and women whose ideas of such security can hardly be met by present economic and social standards in the teaching profession. At the same time, it would be hoped that the reconstruction of the fabric of our society will largely banish economic and social insecurity, with the practical result that the teaching profession would no longer stand out as a secure oasis amid a desert of insecurity and that potential recruits to the profession, while not discouraged by insufficient monetary reward or social prestige, would at the same time not be much attracted by mere considerations of security. Thus not only would the profession run less risk of being overburdened by those who were attracted only by a placid safety, but more unselfish motives would have wider scope.

(ii) *Fondness for children.*—The single motive which was most influential in the case of all the women students and which ranked second in the men's list, namely fondness for children, is obviously one which can be regarded as most desirable, since it is likely to attract to the profession men and women who already possess some natural qualification for their job and some real incentive to work for the children's welfare. Several interesting points are worthy of consideration. First, students on very many occasions have informed me that they found they liked children and could establish good relations with them in the less formal atmosphere which attends the meetings of Cubs or Brownies or even the Sunday School; when, however, faced with the problem of maintaining some sort of discipline in a large class, they have found their liking for children less real and less enduring. They learn at last and often bitterly that the sharing of an experience in an atmosphere of friendly informality with a small group of children is a very different matter from attempting to teach, often in an atmosphere of strained formality, a large and assorted selection of boys and girls, many of whom have little or no inclination to be taught at all. Here then is another argument, if another argument be needed, in favour of the marked reduction in the size of classes, in order that a teacher's natural liking for children may not be overwhelmed by the strain of having to cater for too many at once. Further, it is a fairly obvious recommendation that potential teachers should have every opportunity of establishing contacts with younger children not only in less formal atmospheres but under actual working conditions in the classroom, so that such liking for children as develops may not fade before the cold blast of reality. Secondly, it may be suggested that a great number of young people never have the opportunity of discovering how they get on with children and whether they like working with them or not, with the result that teaching never occurs to them as a possible career. Wider encouragement and opportunity for young people and indeed people of many ages to share in the task of organising children's activities would undoubtedly convince many that the task of supervising children's welfare brings much personal satisfaction and is of the greatest social value.

It is interesting to observe that in Valentine's enquiry fondness for children ranked third in the women's list of original motives and as low as twelfth in the men's list, while a general liking for teaching was ranked second and fourth respectively. Amongst Training College students, on the other hand, fondness for teaching was ranked fourth by the men, sixth by the women (Junior and Senior) and fourth by the women (Infant and Junior). The fact that Training College students are more influenced by fondness for children than by fondness for teaching, while University students are more influenced by fondness for teaching than by fondness for children, is perhaps not unexpected, indicating as it does that University students (especially the men) are more interested in the subjects than in the children they have to teach, as might have been expected from their greater academic interests, while Training College students are more interested in the children they have to teach—a difference perhaps between the more abstract type of intelligence and social intelligence. In connection with my argument at the end of the previous paragraph, it is

significant to note that when Valentine examined the motives of University students just before entering on the actual work of teaching, his lists show that fondness for children had risen to seventh place in the case of the men and second in the case of the women, which suggests that their experience of dealing with children had increased their interest in them.

(iii) *Interest in a special subject.*—Interest in a special subject was ranked third in the men's list, fifth in the list of women (Junior and Senior) and ninth by the women (Infant and Junior), while interest in favourite studies was ranked in Valentine's enquiry third by University men and first by University women. The similarity between the two sets of men students is obvious, but it may be mentioned that the interest shown by Training College men in a special subject includes interest in practical subjects like Physical Training, Handwork and Woodwork, Art, Gardening, etc., which cannot normally be studied at a University. It is reasonable to assume that the interests of University men are more academic, those of Training College men more practical. Consideration will be given in a later part of this paper to the provision made by the normal secondary school to develop and foster such practical interests, since it is obvious that many boys who might be attracted by the possibility of teaching some more practical subject in which they had developed an ability and acquired an interest would be lost to the teaching profession if required to concentrate on more academic work. In the case of women students, the influence of a special subject or study is greatest in the case of University women, less (but not significantly so) in the case of Training College women (Junior and Senior), and least in the case of Training College women (Infant and Junior), even though the Training College course offers subjects like Art, Needlework, etc., which cannot normally be studied at a University.

The implications of this important motive for the recruitment of teachers would seem to be two. In the first place, more attention should be paid in the normal secondary school to stimulating special interests and enthusiasms, so that the curriculum becomes a balance between the following out of an individual interest and one's general education. Too often under present conditions the pupil leaves the secondary school equipped with no individual interest and no enthusiasm of his own, except perhaps the less fruitful interests which a misguided leisure may have produced. Anyone who has interviewed potential Training College candidates will endorse this criticism. The second implication of the importance of the motive of interest in a special subject for the recruitment of teachers is that those who have developed such an interest should be made aware of the possibilities of devoting one's career to teaching that subject and that the training itself should not be made too difficult or too distasteful by insisting on the inclusion of other subjects for which the candidate has neither the inclination nor the aptitude. On the other hand, it would be well for those who wished to teach a particular subject because of their own interest in it to be fully aware of the conditions under which they would have to work and of the demands which their work would make on them, in order that a rash decision might not be followed by a harsh disillusionment and consequent loss of enthusiasm.

(iv) *Desire to continue one's own education.*—The motive of continuing one's own education ranks as fourth in importance in the men's list, sharing that position with a fondness for teaching which has already been mentioned in another connection, while it comes third amongst the women (Junior and Senior) and only seventh amongst the women (Infant and Junior). In this country the State has subsidised training for the teaching profession to a much greater extent than it has subsidised training for any other profession, local education authorities as well as the Board of Education itself being prepared to make grants of money under varying conditions to young men and women who are prepared to commit themselves to teaching. Thus it comes about that young men and women whose parents are unable to provide them with any education beyond that offered by the secondary school are prepared to pledge themselves to teaching in order that they may continue their education with the aid of public grant or even loan. The possible disadvantages of such a scheme, not only to the prospective teacher himself but also to the educational system as a whole, are sufficiently important as to have a complete chapter devoted to them in the recent Report of the McNair Committee. They recommend that the practice of making loans or grants to young people on condition that they enter the teaching

profession should be abandoned as soon as possible, and that a widespread system of un earmarked scholarships or grants should be made available for students at universities and training colleges. When this recommendation has been implemented, one influential but somewhat irrelevant motive for choosing teaching as a career will be rendered inoperative and leave some opportunity for more relevant motives to exercise their influence.

(v) *The possibility of doing good.*—The possibility of doing good as a motive ranks sixth amongst the men, seventh amongst the women (Junior and Senior) and eighth amongst the women (Infant and Junior), again a motive which can be considered most creditable. In Valentine's enquiry ideals ranked tenth in importance amongst the University men and seventh amongst the University women. The fact that ideals of social service do exert such a considerable influence on the choice of these young men and women is encouraging, the more so when we remember that singularly little has been done at least in the case of Training College students, either in their secondary schools or in the attitude of the general public, to help them to have any clear realisation of the social value of the work done in the elementary school. During this war, for example, teaching is the one form of national service which has received practically no favourable publicity, has profited from no organised attempt to focus public opinion on its contribution to the general welfare, and has seen no attempt made to attract to its ranks eager and enthusiastic recruits either by the intelligent dissemination of information or by the more emotional type of patriotic propaganda. It is certain that if each generation of potential teachers were made more consciously aware of the opportunities which teaching offers for fulfilling ideals of social service, a great increase in the number of those prepared to take it up as a career would undoubtedly result. Therefore, the recommendation of the McNair Committee that the Board of Education should instruct H.M. Inspectors to satisfy themselves that the claims, conditions and prospects of the teaching profession are adequately presented to older children in secondary schools must be heartily endorsed by all who have the best interests of children and education in general at heart.

(vi) *Good salary.*—The last single motive to be discussed here is the attraction of a good salary, which was listed seventh amongst the men, fourth amongst the women (Junior and Senior), and third amongst the women (Infant and Junior). First, it is obvious and not unexpected that elementary teaching is more attractive from a financial point of view to women than to men. Secondly, it is interesting to note that Valentine found the motive of economic desirability listed first amongst University men and fourth amongst University women, though in my opinion he failed to discriminate between two different aspects of economic desirability. My preliminary discussions with many students about possible motives made it quite clear that they themselves distinguished quite definitely between a salary which though not handsome was, nevertheless, steady and certain, since they were not likely to lose their jobs when once established, and a salary which was satisfactory in actual amount. The former I called the motive of a secure job, listed first by the men and second by the women, and the latter the motive of a good salary. It thus appears that Training College students as a whole are attracted to teaching because it offers a secure job much more than because they regard the salary as good, especially so in the case of the men. However, many men are influenced by the good salary, a fact which prompts me to wonder whether they place sufficiently high value on their own work when I examine present salary scales in the elementary school.

This motive of a good salary is almost certainly more important from a negative point of view, since we must conjecture not how many men and women are attracted to teaching by the good salary but rather how many are deterred from choosing it because they regard the salary as quite inadequate. When Valentine examined the reasons against the choice of teaching as advanced by University students in training, he found that unsatisfactory salaries was listed first by the men and sixth by the women; presumably many of these University students were thinking of secondary school scales and how much more unsatisfactory would they have regarded the salaries of the elementary scales! This economic deterrent is reinforced by the resulting social deterrent, since a low-paid job tends to result in a lower social standing and in a lower prestige in the eyes of the general

public; it is interesting to note that the motive of improving one's social position is comparatively unimportant, being listed thirteenth or lower by both men and women. If we are to do away with this double-barrelled deterrent, the solution is obvious.

(vii) *The remaining motives*.—Of the seven motives already discussed in detail, the first five, secure job, fondness for children, fondness for teaching, interest in a special subject and desire to continue one's own education, exert over half the total influence as measured by the weighted scores; the exact figures are 51 per cent in the case of the men, 55 per cent. amongst the women (Junior and Senior), and 51 per cent. amongst the women (Infant and Junior). The remaining ten motives which have not been considered individually exert altogether less than one-third of the total influence, the exact figures being 31 per cent. among the men, 27 per cent. among the women (Junior and Senior), and 30 per cent. among the women (Infant and Junior). It is interesting and perhaps contrary to many opinions that the wish of a parent is not particularly influential and only in the case of the women (Infant and Junior) does it appear amongst the first seven motives; the fact remains, however, that the wish of a parent does carry some weight and it must be suspected that many parents who express the wish base it neither on a clear appreciation of the personal qualifications which teaching demands nor on an unprejudiced estimate of their children's suitability for it.¹ It is regrettable that the motives of good holidays and an easy job do exert some influence, though comparatively small, and it seems likely that those who are influenced by the prospect of an easy job are likely to meet with bitter disillusionment. Finally, it is consoling to note that singularly little influence is exerted by the negative motive of knowing nothing else to do; teaching is not so often the last resort as is suggested by critics.

VI.—THE AGE AT WHICH THE CHOICE IS MADE.

(i) *The importance of knowing when the choice is made*.—In the past year or two several Training Colleges have tried the experiment of sending students to talk to the boys and girls of the Sixth Forms in secondary schools in an attempt to interest these young people in teaching as a career; too often have the students returned to report that they have come up against a blank wall of either indifferent or more positive refusal even to consider the possibility. The boys and girls have apparently by that stage in their career formulated their own ideas about the desirability of teaching, often it may be suspected on inaccurate or prejudiced grounds. It seems important to examine the age at which young people normally choose to become teachers, in order that wise and sympathetic guidance may be appropriately given either to confirm them in their choice or to stimulate the interest of others who might otherwise remain indifferent or fail to obtain a reasonably impartial picture of the possibilities which such a career offers. While it is undoubtedly important that the general public should develop a much more informed appreciation of the work of the teaching profession as a whole, it will not help in the recruitment of teachers if the appropriate publicity is made available to secondary school pupils only after they have hardened their hearts against teaching or already set their minds on some other career. In particular, the Careers specialists, whose help must undoubtedly be invoked in the problem of recruitment, must know the most suitable time to provide adequate publicity about teaching as a career.

Further, the McNair Committee has recommended that local education authorities should make provision for the continued education up to eighteen of those boys and girls in modern schools and junior technical colleges who are willing without commitment to consider preparation for teaching and are provisionally judged suitable for it, and that maintenance allowances and other aids should be sufficient to ensure that children, including in their number many potential teachers, should not be withdrawn prematurely from secondary schools solely on economic grounds. It is, therefore, relevant to have some knowledge of the ages at which children naturally show interest in teaching as a possible career, so that suitable provision may be made for further education to sustain and stimulate

¹ Cf. article by this author, "Attitudes of Secondary School Authorities towards the Training College Course," in Vol. XIV, Part I, of this *Journal*.

that interest without any attempt being made to exercise any kind of pressure on the children themselves or indeed to offer any kind of inducement to take up teaching against the children's own wishes. Thirdly, if potential candidates for the teaching profession are to be freed from the tyranny of the narrowly academic tradition of most sixth form courses, which do not often provide the most liberal education for an intending teacher and, indeed, often appear so unattractive as to deter children who might otherwise have become teachers from continuing their education at all, it is important to know whether the choice of teaching as a career is normally made by children before embarking on their sixth form career.

(ii) *The wish to become a teacher.*—Each of the 643 students involved in this enquiry was asked not only to mark the motives which influenced their choice of teaching, but also to state (a) the age at which they first formed the wish to become a teacher and (b) the age at which they decided to become a teacher. The figures for men, for women (Junior and Senior) and for women (Infant and Junior) were again examined separately for the purposes of comparison. Table 6 shows the percentage of the whole number of students who first wished to become a teacher at each age.

TABLE 6.
AGE OF FIRST WISH TO BE A TEACHER.

	Age 12 and below.	13	14	15	16	17	18
Men	22%	6%	8%	16%	33%	13%	2%
Women (Junior and Senior)	64%	5%	9%	5%	9%	7%	1%
Women (Infant and Junior)	55%	4%	5%	12%	11%	10%	3%

The first most obvious conclusion is that teaching makes a much earlier and more direct appeal to girls than to boys. The teaching profession shares with nursing the honour of being among the two most obvious careers for a girl and indeed has been in the past one of the most attractive, offering as it does a full and satisfying outlet for the maternal instinct which is normally so strong in the female of the species and enabling the girl to secure happiness and content for herself and at the same time to render an inestimable service to the community. Many girls undoubtedly grow up with the wish to become a teacher, a wish which shows itself when at very tender ages they range their dolls in a row and conduct a school and which is often sufficiently powerful as to preclude the consideration of any other possibility. Hence the necessity for having an attractive picture of the teaching profession to present and for ensuring that it be presented with tact and sympathy, so that this very natural wish may ripen into resolve. To the boy, on the other hand, searching often for some adventurous mode of asserting his manliness, teaching is not on first consideration a particularly attractive job and is seldom the first or most obvious choice. Almost half the men first formed the wish between the ages of 15 and 16, presumably at a time when teaching appears to offer some scope for putting into practice some of the ideals which are developing as part of the character of the adolescent youth. To the boy, therefore, the claims of the teaching profession ought to be presented at a somewhat later stage than to the girl, a different emphasis being laid on the attractiveness of the career in order that the boy may not regard it as effeminate or too lacking in adventure. It might be suggested that girls, as early as the age of twelve, be taken to visit a good modern Infant School, while boys at the age of fifteen might rather inspect a good Junior School where some experimental work of an interesting kind is being carried out. Thus might the wish to become a teacher be aroused or fostered at an appropriate time.

The difference in the percentage of the two groups of women who first form the wish at or below the age of twelve is probably due to the fact that girls to whom the more formal teaching of older children does not in the least appeal, either because their interests are not particularly academic or because they are interested in young children as children rather

than as scholars, do not learn of the possibilities of working with younger children in the nursery or infant school until later and only in the light of that knowledge do they wish to undertake teaching. It is to be regretted that the opportunities of nursery and infant school teaching are not as widely known as they might be to girls who themselves have had no direct experience of a nursery school and whose infant school days are now only a vague memory. Visits to good modern nursery and infant schools might stimulate the wish to undertake such work.

(iii) *The decision to become a teacher.*—It is most probable, indeed certain, that many boys and girls who quite early form a wish to take up teaching, do not eventually do so, either because of economic difficulties or because they learn of the social and economic disadvantages which attend it or for other personal reasons, and equally certain that some boys and girls become teachers without ever having wished to do so. Indeed one woman student openly admitted in her reply that she never wished to become a teacher and came to a Training College only because of her father's wish. What is of most importance from a practical point of view is not the age of forming the wish but the age at which the decision is made. Table 7 shows the percentage of the total group who decided to become a teacher at each age.

TABLE 7.
AGE OF DECISION TO BECOME A TEACHER.

	Age 12 and below.	13	14	15	16	17	18
Men	4%	2%	6%	17%	44%	24%	3%
Women (Junior and Senior) ..	11%	7%	20%	22%	23%	14%	3%
Women (Infant and Junior) ..	11%	6%	10%	24%	27%	17%	5%

From this table it emerges that in the case of the men more than two-thirds make the decision between the ages of 16 and 17 and that by the age of 16 almost three-quarters have made their decision. In the case of the women (Junior and Senior), about two-thirds make the decision between the ages of 14 and 16, and by the age of 16 more than four-fifths have made their decision. In the case of women (Infant and Junior), more than two-thirds make their decision between the ages of 15 and 17, and by the age of 16 four-fifths have made their decision.

Valentine, in his study of the motives of University students already referred to on several occasions, found that 16 is the most frequent age of decision for both men and women, whereas in the case of Training College students there is a distinct difference between men and both groups of women. He also found that 56 per cent. of his group made the choice during the years 15, 16 and 17, as compared with 85 per cent. of Training College men, 59 per cent. of the women (Junior and Senior) and 68 per cent. of the women (Infant and Junior). The pronounced difference in the men's figures is not difficult to explain. It has already been noted that the Training College men both form the wish and make the decision to enter teaching later than the women. When a man applies for admission to a Training College he must already have decided to take up teaching; since the normal age for admission to College is 18, he must have decided while still 17 in order to send in his application at the appropriate time. The University student, on the other hand, need not commit himself to a definite decision regarding his future before going to a University; in fact, many students start their University career with a suspended judgment, being intent for the time being on gaining a degree and hoping that their experience at a University will help them to decide what profession to adopt. Thus, in Valentine's enquiry, he found that many students were able to defer their decisions about the teaching profession until 18, 19 and even in the case of 18 per cent. of the men until an age above 19, a possibility which is obviously denied to the Training College student, on whose entry the die is cast indeed. The fact that Training College women decide earlier than

University women, certainly earlier than they need to do in order to have their application for admission to College accepted in time, is undoubtedly connected with the fact that the main motive of Training College women is the very direct one of fondness for children, while that of the University women is an interest in favourite studies, obviously a motive which only comes into play when a certain maturity has been reached.

There are two practical implications of this consideration of the age of decision. In the first place, over three-quarters of this whole group of 643 students had decided to take up teaching by the age of 16. We may, therefore, assume that by that age a number of their contemporaries, who perhaps had originally wished to become teachers, had decided for one reason or another not to enter that profession. Accordingly the claims, conditions and prospects of the teaching profession would most usefully have been presented to this group and their contemporaries who did not choose teaching before they reached the age of 16. Secondly, if we may assume that some of their contemporaries by the age of 16 did indeed decide for economic reasons not to take up teaching, the provision of such allowances and grants as the McNair Committee recommends would have enabled them to make the opposite decision and to continue at school after the age of 16, that is after what will presumably before long be the official school-leaving age. In any case, it is evident that 16, the future school-leaving age, is not an unnaturally early age at which to expect children to make a decision, especially when it is only a tentative decision, to stay on at school with a view to becoming teachers and to take advantage of such grants and allowances as are available.

(iv) *Stage in school at the time of decision.*—Students were asked to report not only at what age they made the decision to become teachers but also at what particular stage in the educational process. The results are shown in Table 8.

TABLE 8.
STAGE IN SCHOOL AT TIME OF DECISION TO BE A TEACHER.

	<i>Before School Cert. Year.</i>	<i>During School Cert. Year.</i>	<i>1st Year Sixth Form.</i>	<i>2nd Year Sixth Form.</i>	<i>After Higher School Cert.</i>
Men	24%	37%	34%	4%	1%
Women (Junior and Senior)	50%	22%	18%	9%	1%
Women (Infant and Junior)	40%	34%	19%	5%	2%

It is thus evident that 61 per cent. of the men had made the decision either before or during their School Certificate year and only 5 per cent. had delayed the decision until after their first year in the Sixth Form. Amongst the women (Junior and Senior) 72 per cent. decided before or during their School Certificate year and only 10 per cent. after their first year in the Sixth. Amongst the women (Infant and Junior) 74 per cent. had decided before or during their School Certificate year and only 7 per cent. after their first year in the Sixth.

Here, surely, is a sound argument for an extensive modification of the Higher School Certificate syllabus and the sixth form curriculum. Of the several hundred College students who provided the evidence for the present enquiry, almost two-thirds of the men and three-quarters of the women had already decided to take up teaching before the beginning of their sixth form career, and of the remainder most had decided by the end of their first year in the sixth form. Yet it is certain that in the majority of their schools this fact was never ascertained by those in authority nor, indeed, if known, could it have affected the dominating influence of the examination tyranny of the present Higher School Certificate requirements with their insistence on an intellectual specialisation. Especially in the case of those pupils who had thus early decided to apply for admission to a Training College and teach in the elementary school, a curriculum could have been planned, not certainly to segregate them from their fellows or mark them off in any way, but to ensure a

course of studies which would have developed wider and less narrowly specialised interests which are such a valuable qualification in the elementary teacher. The urgency of this problem is discussed in the Report on the Training of Teachers, issued in 1939 by a committee of investigation appointed by the Executive of the National Union of Teachers, where the words of a former Principal of a Training College are quoted: "A wide cultural course is required, and I would add, one that is directed towards preparing the student to take an intelligent and cultural part in modern life under modern conditions, rather than towards giving him or her any special preparation for the profession of teaching." Indeed, such a wisely planned curriculum might have much in it to benefit even those with more pronounced academic and specialised interests.

VII.—CONCLUSIONS.

The reports of 643 students in training at a two-year Teachers' Training College, given anonymously and referring to conditions existing before 1942, reveal the following facts:

(i) The two most influential motives in the choice of the teaching profession were the attractions of a secure job, first in weight amongst the men and second amongst the women, and fondness for children, second in weight amongst the men and first amongst the women.

(ii) Of all the seventeen motives considered, the seven which rank as most important and carry over two-thirds of the total weight, are the same in the case of both men and women (Junior and Senior), namely, secure job, fondness for children, interest in a special subject, desire to continue one's own education, fondness for teaching, the possibility of doing good, and the good salary. Amongst women (Infant and Junior) good holidays and the wish of a parent displace the possibility of doing good and interest in a special subject in the first seven motives.

(iii) Some weight is carried amongst both men and women by a parent's wish, less by the attractions of good holidays and an easy job, and singularly little by the negative motive of having nothing better to do.

(iv) When different groups of motives are weighted, motives which can be accounted as desirable carry almost half the total weight; selfish motives exert about one-third of the total influence and incidental motives the remaining weight.

(v) The wish to become a teacher is first formed considerably earlier amongst girls than amongst boys, two-thirds of the women having first formed the wish at the age of 12 or below, and one half of the men between the ages of 15 and 16.

(vi) The decision to take up teaching is made earlier amongst girls than amongst boys. Of the men more than two-thirds made the decision between the ages of 16 and 17 and almost three-quarters had decided by the age of 16. Of the women (Junior and Senior) about two-thirds made the decision between the ages of 14 and 16 and more than four-fifths had decided by the age of 16. Of the women (Infant and Junior) more than two-thirds made their decision between the ages of 15 and 17 and four-fifths had decided by the age of 16.

(vii) Almost two-thirds of the men and three-quarters of the women decided to take up teaching before the beginning of their sixth form career. Only 7 per cent. of the whole group decided later than their first year in the sixth form.

(viii) There are some interesting similarities in the motives which influence Training College students and University students, in the weight of desirable and other motives, and in the age of decision to become a teacher.

THE APPLICATION OF A NEW INTELLIGENCE TEST IN AN INFANT SCHOOL AND THE PREDICTION OF BACKWARDNESS.*

By B. B. WAKELAM.

I.—Introduction. II.—Description of the school and children tested. III.—Description of the test used. IV.—Application of the Valentine test to infant school children. V.—Validity of the test. VI.—Reliability of the test. VII.—Relative scores in verbal and non-verbal sub-tests. VIII.—The test as an indicator of potential backwardness. IX.—Assessment of the part played by dullness in a group of backward readers. X.—The possibility of the use of the new test in schools. XI.—Summary and conclusions.

I.—INTRODUCTION.

"SHEER inborn dullness appears to be the commonest and most important reason why children fail in their school work," states Professor Burt.¹ Hence it is of great importance for the teacher to make, as early as possible in the child's school career, an adequate estimate of the child's innate ability; indeed, since the new Education Act proposes the provision of facilities for special education for all who need it as soon after the age of five years as possible, some means of assessing innate ability is imperative. On the accuracy of this assessment will depend largely the child's future adjustment to school. Where innate ability is rated too highly there is a likelihood of a too early introduction to formal instruction for which the child is not sufficiently mature. To protect himself the child sets up defence mechanisms, and the backwardness due to dullness is increased. In the same way, the child whose innate ability is rated too low is not extended sufficiently, and becomes 'lazy.' As a result we get the child "who doesn't fit in with the group; he gets little satisfying attention from the teacher. As a result he dislikes school, feels unhappy, and slips into undesirable behaviour. He struggles to learn to read. The teacher urges, coaxes, and scolds—all to no avail. So he repeats the first grade, the habit of failure well established."²

The weight of this factor in producing backwardness cannot easily be estimated; it is more inclusive than the factors of 'Inefficient Teaching' and 'Inefficient School Organisation' which in combination were rated as major factors in 2.1 per cent of the backward children in Burt's London enquiry.³ The seriousness of educational backwardness is increased by the fact that it often entails social maladjustment and anti-social behaviour.

Since it is unlikely that the supply of educational psychologists to carry out the work of testing all entrants to school will be adequate for some years, recourse must be had to a test that can be administered by teachers without prolonged specialist training, and that will serve as a screen which will segregate those whose innate ability is below the average. Identification of dullness through teachers' observations is not possible since educational backwardness by which they largely judge is potential rather than actual at the beginning of school life.⁴ As a group test is impossible at the age of five, an individual test must be used. This paper examines the value of such an individual test of intelligence and gives the results of its application to 251 children who formed the infants' classes in a Junior and Infant School of which the writer is Head Master.

*Based on a thesis accepted as part qualification for the M.A. in Education; University of Birmingham, 1942.

¹ BURT, C., *The Backward Child*, p. 449.

² FRAMPTON AND HURRELL, *Education of the Handicapped*, vol. 2, p. 336.

³ BURT, C., *op. cit.*, p. 566.

⁴ The effect of backwardness on social adjustment has been extensively studied by Burt, C., *The Young Delinquent* (esp. pp. 291-398); see also, Baghot, J.H., *Juvenile Delinquency in Liverpool*; Rogers, C. R., *The Clinical Treatment of the Problem Child*; Valentine, C. W., *The Difficult Child and the Problem of Discipline*; Murchison, C., *Handbook of Child Psychology*, Chap. 13.

II.—DESCRIPTION OF THE SCHOOL AND CHILDREN TESTED.

The school to which the children belong is in a congested area of Birmingham, so that the socio-economic status of the children is generally below the average, although some of the worst of the poverty has been alleviated by increases in wages since the start of the war. Increased purchasing power has not led in all cases to better care for children—too often are the parents well-meaning but mis-informed. That a boy comes from a home low in the socio-economic scale does not, of course, mean that he is to be rated as dull since "stupidity is not an inevitable result of poverty, though poverty is its most common concomitant." Burt found a correlation of .71 between backwardness and poverty, but points out that the one feature which showed the closest relation to the child's school progress is, not the economic or industrial status of the family, but the "efficiency of the mother."¹

One of the handicaps from which a great number of the children in the school suffer is poverty of language. This is partly due to the fact that there is often very little sustained conversation between parent and child. It is quite usual to find that the child entering school at the age of five years is ignorant of even the commonest nursery rhymes. Since, as is generally recognised, reading is the one subject that affects all other forms of learning in school, much of the backwardness originates in reading difficulties. The actual retardation in reading of one age group over a period of three years is given in Table I. Poverty of language most probably extends throughout the primary stages of schools in the poorer districts of Birmingham.²

TABLE I.
RETARDATION IN READING OF ONE AGE GROUP IN SUCCESSIVE YEARS.

<i>Average Age.</i>	<i>Number of Children.</i>	<i>Average Reading Age.</i>
7 years 2 months.	57	5 years 6 months.
8 years 3 months.	54	7 years 1 month.
9 years 2 months.	50	8 years 5 months.
10 years 1 month.	44	9 years 5 months.

The Reading Age was based on the Graded Reading Test from *Mental and Scholastic Tests* (Burt, C.). The progressive decrease in numbers was due to children moving from the district. The sudden jump in average reading age between seven and eight is a characteristic of the school.

These limitations of language in the groups tested, due in part to environmental conditions and in part to lower average general intelligence, are fully recognised; but since the investigation was primarily concerned with the discovery of dullness and potential educational backwardness in young children, these limitations were an advantage for our purpose.

III.—DESCRIPTION OF THE TEST USED.

Professor Valentine's individual *Intelligence Tests for Young Children* were used in the investigations.³ At the time they were still unpublished; but Professor Valentine kindly allowed me to use a typescript copy. In general pattern they are similar to the Binet-Simon Scale. Test items are given from the chronological age of one year six months to eleven years, and for most ages there is a larger number of items (eight or ten) than is

¹ BURT, C., *The Backward Child*, pp. 105, 133, 566.

² The extent of such language handicap is indicated by an unpublished enquiry carried out by the Birmingham Teachers' Research Council. Using the *Vocabulary Tests* compiled by Mr. A. F. Watts, an examination of the relative vocabularies of children from congested and suburban areas of the city was made. The tests consisted of 500 recall items including nouns, adjectives and verbs. They were given to all children of the city over the age of ten years, and the results showed a marked and statistically significant difference between the scores of children from congested and suburban areas. At the age of ten years, the average score of 2,122 children from the congested areas was 21.3, as against an average score of 31.9 for 1,215 children from suburban areas.

³ VALENTINE, C. W., *Intelligence Tests for Young Children*, Methuen and Co. (In the press.)

usually found in individual tests of this type. Furthermore, up to the age of four years there is a separate series of sub-tests for each six months of age. Both performance and verbal sub-tests are included, the former including a maze test for each year from three onward. In nearly every case the sub-tests have previously been well standardised by other authorities—more especially by Burt, Terman, and Gesell. As the language used in the instructions is simple and direct, and is couched in terms familiar even to children with poor vocabularies, it was specially suitable for my purpose.

IV.—APPLICATION OF THE VALENTINE TEST TO INFANT SCHOOL CHILDREN.

During a period of twelve months, 251 children, ages from four years six months to seven years six months, comprising the whole of the Infant Department of the school, were tested by myself with Professor Valentine's Test. The distribution of the I.Q.'s based on the test scores approached as nearly as could be expected, in view of the limitations in the test population already noted, to a normal distribution. The mean I.Q. was 95·4, and the curve was slightly flattened (Ku·489) and very slightly skewed to the left. (See Table II.)

TABLE II.
DISTRIBUTION OF SCORES ON VALENTINE TEST.

No. of Children Tested	251
Range of I.Q.s	61—126
Mean I.Q.	95·4
S.D.	11·5

The mean I.Q. of 95·4 represents fairly well the general level of the children in the school, while the standard deviation of 11·5 is but little below that found by Burt for children of the same age in his standardisation of the Binet Scale for English children.¹ The frequencies of the scores in the various ranges of the I.Q. scale also correspond sufficiently closely with the theoretical frequencies. (Table III.)

TABLE III.
COMPARISON OF OBTAINED FREQUENCIES WITH THEORETICAL EXPECTATION.

<i>I.Q. Range.</i>	<i>Obtained Frequency as percentage.</i>	<i>Theoretical Frequency as percentage.</i>
105—126	18·5	26
91—104	50·0	49
80—90	20·6	15
below 80	10·8	10

V.—VALIDITY OF THE TEST.

Some measure of the validity of the test over the ages tested was attempted. It was impossible to obtain any but the broadest kind of criterion. The children at this age are not sufficiently stable in their attainments to make the use of objective tests of attainment possible, so recourse was had to teachers' subjective ratings, which were made before the children were tested so that the teacher's judgments should not be affected by the test results. Ratings were made on a three point scale; Good (above the average), Average, and Poor (below the average), and where the child had been through more than one teacher's

¹ BURT, C., *Mental and Scholastic Tests*. TERMAN, L., and MERRILL, M. A. (*Measuring Intelligence*), also found a standard deviation of no more than 12·5 at age six in the standardisation group. BURT (op. cit.), TERMAN (op. cit.) and WECHSLER (*Measurement of Adult Intelligence*) all point out that standard deviation increases with increase of age.

hands, ratings were made after consultation. Seventy children were rated as good, ninety-two as average, and eighty-nine as poor. Of the ninety-two children whose ability was rated as average, forty-one had I.Q.s between ninety-five and one hundred and five, and the results of these forty-one children were disregarded in the calculation of the co-efficient of validity. The tetrachoric correlation between teacher's ratings and I.Q.s, calculated on 210 cases, was .60, a figure that suggests a good degree of validity of the test.

VI.—RELIABILITY OF THE TEST.

The reliability of the test was examined for forty-one children only. These children had been re-tested from one to two years after the original testing had taken place. Their ages at the original testing ranged from four years to five years six months, and at the re-test from five years six months to six years six months. The shortest times between any two testings was one year and the longest two years. The average gain or loss in I.Q. points was only 2.6 (see Table IV). The product-moment correlation between the two testings was .91 with a P.E. of 0.02, an extremely satisfactory result since it approximates very closely to the variation found by Terman when investigating the results of practice effect due to re-testing with the Terman and Merrill Tests after a few days.¹

TABLE IV.
CHANGES IN I.Q. ON RETESTING WITH VALENTINE'S TEST AFTER PERIODS VARYING FROM ONE TO TWO YEARS.
(Ages of children at first testing 4 years to 5 years 6 months.)

<i>Gains in points of I.Q.</i>	<i>Number of children.</i>		<i>Losses in points of I.Q.</i>
0	7		0
1	4	4	1
2	4	3	2
3	2	4	3
4	2	4	4
5	0	3	5
6	1	2	6
		1	11
Average gain 2.5			Average loss 2.9

VII.—RELATIVE SCORES IN VERBAL AND NON-VERBAL SUB-TESTS.

Some evidence was collected on the effect of language handicap on test scores. The scores of fifty-seven children of the four to four-and-a-half year group who had all been examined within a few days of their admission to school were analysed. In no case had any child previously attended either a day nursery or a nursery school, so the only pre-school experiences had been in the home or in the street.

On the basis of knowledge of the parents, of the children's elder brothers and sisters, of their homes through teaching at the beginning of the war, and observed parental care as shown by the children's general appearance and cleanliness, a two-fold division of the children was made—Group A, the children who came from 'better' homes (usually, though not always, those in the higher income groups), and Group B, those from 'poorer' or less cared-for homes. Group A numbered twenty-one, while Group B numbered thirty-six.

Two sub-tests were chosen as being most likely to show differentiation in language ability, Repetition of Syllables (incorporated by Valentine from the Binet Test and including such items as the repetition of "I like to eat cake and biscuits") and the Action-Agent

¹ Terman and Merrill, op. cit.

Test (the child is required to give the correct agent in reply to such questions as "What sleeps? What bites?"). The latter is a three and four-year-old test, while the former has a graded series of sentences ranging from those suitable for three-year-olds to those suitable for six-year-olds. So both tests gave material appropriate for the age group. In both tests the mean score of the B Group (poorer homes) was considerably lower than that of the A Group (better homes). In the Repetition of Syllables Test, only two children of the A Group scored less than the average score of the B Group, and only two children of the B Group exceeded the average score of the A Group. In the Action-Agent Test no child of the A Group had a score less than the average score of the B Group (See Table V).

TABLE V.

MEAN SCORES IN TWO VERBAL SUB-TESTS OF CHILDREN FROM "BETTER" AND "POORER" HOMES.

		<i>Group A. Better Homes.</i>	<i>Group B. Poorer Homes.</i>
Repetition of Syllabus Test	Mean Score.....	12.3	8.7
	Range	6—16	4—16
Action-Agent Test	Mean Score.....	18.0	12.0
	Range	12—20	8—16
Number of children		21	36

These differences in language ability were confirmed by a further experiment. For a period of three weeks, fifteen minutes each day was set aside for free and unrestricted activity. Toys of all kinds were made available, and no restrictions were placed on changes of employment. While the activities were in progress the number of statements of more than four words that were offered to another child or to the observer was noted. It was impossible to record the number of words, or the actual words spoken with any accuracy, but the difference in the number of statements spoken is sufficiently striking. The children of the A Group (better homes) averaged 75.8 statements for the period under review, while the B Group (poorer homes) averaged 20.1 statements only.

Having established the poorer language ability of the B Group, the whole of the test results of the two groups were analysed. The sub-tests were divided into Performance tests, where the child is asked to do something, and Verbal tests, where the child is asked to say something. A slightly greater divergence was shown between the two groups in the verbal type of test than in the performance type (see Table VI), but that this difference

TABLE VI.

COMPARISON OF SCORES IN PERFORMANCE AND VERBAL SUB-TESTS OF VALENTINE'S TEST.
57 children (age 4—4½ years.)

	<i>A Group. Better Homes.</i>	<i>B Group. Poorer Homes.</i>
Average number of correct responses (all types). (i)	25.6	21.9
Average number of correct responses in verbal sub-tests	10.7	8.3
Average number of correct responses in performance sub-tests	14.9	13.6
(ii) as percentage of (i)	41.8%	36.5%
(iii) as percentage of (i)	58.2%	63.5%
Average I.Q. of group	99.8	95.6
Number of children	21	36

in language ability did not unduly depress the I.Q.s of the more handicapped group is shown by the fact that the average I.Q. of the B. Group was only 4.2 points lower than that of the A Group.

VIII.—THE TEST AS AN INDICATOR OF POTENTIAL BACKWARDNESS.

The educational attainments of forty-four children, rated for innate ability by the Valentine test at the age of five years, were measured at the age of eight years. The tests used were Burt's *Graded Reading Test* and *Mental Arithmetic Test*, Schonell's *Comprehension of Reading Test A*, and Cattell's *Midland Spelling Test*.¹ Educational Quotients were obtained by averaging the scores on these tests. The average I.Q. of the group was 94.5 (S.D. 11.8) and the average E.Q. was 93.4 (S.D. 13.5). The product-moment correlation between intelligence and educational attainment was .81 (P.E. .04). The verbal factor present in both the intelligence test and the achievement tests accounts for some of the correlation, but since the intelligence test was being used to predict scholastic aptitude, which is very dependent on verbal ability, this in no way invalidates the result. In spite of the considerable degree of homogeneity in the sample of children tested, the correlation is high and the results show that the intelligence test predicted with a great measure of success the future educational backwardness of the five-year-old children in my school. Only one of the eleven children whose I.Q.s were below eighty-eight obtained E.Q.s higher than eighty-five, and that one had done very much better in the verbal than in the performance sub-tests. The early identification of dullness in these cases might have helped to prevent the formation of emotional strains in these children that would have increased their backwardness.

IX.—ASSESSMENT OF THE PART PLAYED BY DULLNESS IN A GROUP OF BACKWARD READERS.

The 9-10 year age group in the school was extremely backward in reading. The group had been hard hit by the war; some had been evacuated two or three times; some had been passed from one set of relatives to another according to the incidence of bombing in the various districts; some had stayed at home only to find that for long periods the school was closed; none of them had had more than two or three months' continuous schooling under stable conditions during the first two years of the war. The group numbered forty children, and, since it included the whole of the 9-10 year group, it was most unlikely that the backwardness in reading was entirely due to innate dullness. Tested with Burt's *Graded Reading Test*, it was found that no child had a reading quotient of more than 90, the mean quotient being 69.7 (standard deviation 15.2).

Innate ability was measured by Sleight's Non-Verbal Test of Intelligence,² Cattell's Scale I Intelligence Test³ and Valentine's Individual Intelligence Test for Young Children. No group verbal test was included since it was obviously futile to expect any reliable rating of innate ability on such a test as the reading level of the group was so low.⁴ The two non-verbal group tests used are ordinarily quite satisfactory for children of this age; the effective range of the Sleight test is from seven to ten years, and the Cattell test is most suitable for children of eight to ten years "who come from widely different educational environments."⁵

The Sleight test was administered first, and the alternative easier instructions given by the author were used throughout. The Cattell test was administered a week later. Both tests were given in two halves on successive mornings. The Valentine test was given at intervals during the month as opportunity arose. The results are shown in Table VII.

¹ BURT, C., *Mental and Scholastic Tests*; SCHONELL, F., *Backwardness in the Basic Subjects*; CATTELL, R. B., *A Guide to Mental Testing*.

² SLEIGHT, *Non-Verbal Test of Intelligence*.

³ CATTELL, R. B., *Intelligence Test Scale I, Form A*.

⁴ MELLONE, M. A., "Reading Ability and I.Q.", this *Journal*, 1942, p. 135. Miss Mellone concludes that "I.Q.s obtained from verbal tests might be accepted as valid if the reading age were above 9½ years but not if it were below." The Sleight Test was used in this enquiry.

⁵ CATTELL, R. B., *Handbook of Cattell Group and Individual Tests*, p. 8.

TABLE VII.

I.Q.s OF 40 BACKWARD READERS BASED ON THE CATTELL TEST, THE SLEIGHT TEST, AND THE VALENTINE TEST.

<i>Name of Test.</i>	<i>Mean I.Q.</i>	<i>Range.</i>	<i>Standard Deviation.</i>
Cattell Non-Verbal	74.45	50—109	13.40
Sleight Non-Verbal	76.80	50—110	14.95
Valentine Individual	84.0	60—115	11.7

By itself the steady increase in mean I.Q. might be most easily explained by saying that the order of increasing difficulty of the tests was, the Valentine Test, the Sleight Test and the Cattell Test. Since the standard deviations of the two non-verbal tests are very little different from the standard deviation of 14.0 on which most classifications of dullness are made, we can assume with some reservation (as no two scales are directly comparable) that a score of less than eighty-five points of I.Q. indicates innate dullness. On this assumption, twenty-nine of the forty children are rated as innately dull by the Sleight Test, while thirty-one would be so rated by the Cattell Test. The Valentine Test gave only nine I.Q.s of less than eighty-five. The correlation between the two non-verbal tests was .66 (P.E. .06).

The great number of low scores in the group non-verbal tests is a marked feature of results obtained from group tests of intelligence. In the examination of 1,900 boys (ages 11-14 years) in a Birmingham Senior School, 6.4 per cent. had I.Q.s of less than seventy when the Simplex Junior Group Test of Intelligence was used. It is partly due to language difficulty, and partly to the overwhelming nature of the task set (that is, overwhelming to the backward child). Even in the non-verbal tests used in this enquiry, where each sub-test has its own instructions and practice items, the dull child is faced with a whole page of pictures or diagrams that are often outside his experience. He sees a jumble and not a series of meaningful wholes, and the responses he makes do not reflect his real ability to perform the task set. It violates the principle that backward children are best taught through small assignments.

The correlation between the Valentine test and Cattell's was practically zero; between the Valentine tests and Sleight's only 0.26 (see Table VIII). The lowness of these correlations is partly due to the close grouping of many of the scores of the non-verbal tests at the lower end of the distribution, but more especially to the narrow range of items answered in the non-verbal test. The higher correlation between the non-verbal tests themselves is explained by the fact that the sub-items chiefly answered by the children in both tests were identical in type; viz. Substitution and Classification. The results seem to fit in with Dearborn's conclusion that non-verbal material cannot be substituted for verbal material without handicapping many children.¹

TABLE VIII.

CORRELATIONS BETWEEN THE INTELLIGENCE TESTS AND THE READING TEST.

	<i>Sleight Test.</i>	<i>Valentine Test.</i>	<i>Reading Test.</i>
Cattell Test .....	.66 .06	.01 .15	.08 .10
Sleight Test .....		.26 .10	.11 .10
Valentine Test .....			.03 .15

¹ DEARBORN, W. F., and ROTHESAY, J., *Predicting the Child's Development*, p. 342. Although this point of view is not confirmed by STEPHENSON (*Tetrad differences for verbal sub-tests relative to non-verbal sub-tests*—this *Journal*, 1931, pp. 334-350), BURR (*Mental and Scholastic Tests*, p. 154) insists on the use of both kinds of test for diagnostic reliability.

The correlations between all the intelligence tests and the reading tests were also very low. Since the weight of existing evidence shows a positive correlation at this age of $\cdot 6$ to $\cdot 8$ between intelligence and reading,¹ the obtained correlations support the view that the reading disability of the group was not due to innate dullness only.

The important problem, however, for us was what test gave the best indication of the capacity of these children for *improvement* in reading.

It was possible to follow the further progress of the group for a period of one year only, since at the end of that time the children were transferred to Senior Schools. At the end of the year, the forty children were again tested with Burt's Graded Reading Test. The mean reading quotient had now risen to 81.9 with a range of fifty to 111 and a standard deviation of 15.2. Product-moment correlations between this second reading test and the three intelligence tests applied twelve months before are given in Table IX. The only correlation of any size was that between the reading test and the Valentine Test (r . $\cdot 49$).

TABLE IX.

CORRELATIONS BETWEEN THE INTELLIGENCE TESTS AND (A) THE INITIAL READING TEST (B), THE FINAL READING TEST ONE YEAR LATER.

	<i>First Reading Test.</i>		<i>Second Reading Test.</i>	
Cattell Test	$\cdot 08$	$\cdot 10$	$\cdot 09$	$\cdot 16$
Sleight Test	$\cdot 11$	$\cdot 10$	$\cdot 09$	$\cdot 15$
Valentine Test	$\cdot 03$	$\cdot 15$	$\cdot 49$	$\cdot 09$

This suggests the need for the inclusion of some verbal sub-tests in any intelligence test that is to be predicative of success in school work for which reading is a basic subject.²

We may then fairly conclude that, while the non-verbal groups tests failed to give a rating of intelligence that would form a satisfactory basis for differential remedial instruction in reading, the Valentine Test did this with considerable success.

An examination of the relative performances of this group on the verbal and performance sub-tests of the Valentine Test showed 49.1 per cent. of the verbal sub-tests correctly answered and 70 per cent. of the performance sub-tests correctly done. This corresponds closely to the distribution obtained from the group of four-year-olds from the poorer homes. (See Table VI.) The extreme cases of language disability were shown without obscuring the fuller picture of the child's ability. Whereas the group non-verbal tests had added little to the knowledge of the individual members of the group, the Valentine Test indicated that, in a large proportion of the cases, backwardness was not due to innate dullness. It was on the basis of the information obtained from the Valentine Test that remedial instruction in reading was undertaken.

X.—THE POSSIBILITY OF THE USE OF THE VALENTINE TEST IN SCHOOL.

The use of a test of intelligence in any given school is dependent on the ease with which it can be administered, the time needed for its administration, and the amount of training needed by the administrator. In the enquiry which has been described above, the test was used under conditions which were as adverse as any that will be ordinarily met with in a school. The only room available was that used as Head Teacher's room, Staff room, and Fire-guard room. Hence the surroundings were drab in the extreme. The test was sufficiently interesting to the children to overcome these difficulties—even after two years of regular testing there is still competition to 'see the pictures.' (This is the usual way in which the youngest children refer to the test.)

¹ SUTHERLAND, J., "Investigation of some aspects of Problem Solving in Arithmetic," this *Journal*, 1942; MERRILL, M. A., *Relation of Intelligence to Ability*, Ped. Sem, 1921.

² VERNON, P. E., *The Measurement of Abilities*, p. 183.

As to the question of the amount of training needed in order to obtain adequate results, I found that the University Diploma Year students in Education could obtain an adequate score from a child after three periods of training. (No results obtained from such students are included in the figures given.)

The question of time, which perhaps looms largest in most schools, presents no insuperable difficulty. In the middle ranges of the Junior School the average time taken was about twenty minutes. With infants, the time taken varied considerably, especially where the child was examined immediately on admission, since time was spent in establishing contact. Where the child had been in the school for six months or more, contact had already been made, and the average testing time was half an hour. A whole school population can be tested if the testing is confined to the new entrants to the school, by devoting sixty hours per school year, or one and a half hours per week, to the testing work. In this time 120 children could be tested in the course of a year by a single tester. This would mean that all children in an Infant School of 360 would be tested by the end of the third year. In the average Junior School of 450, the same expenditure of time would, owing to the longer span of the Junior School, allow for the re-testing of all children. This, it is obvious, would be of inestimable value in the planning of the child's future education, and would be an important step in the compilation of records that would be adequate to meet the needs of the new Education Act.

XI.—SUMMARY AND CONCLUSIONS.

1.—The children with which this study deals were drawn from a school in a poor area of Birmingham and suffered in varying degrees from language handicaps.

2.—Used with infant children (age $4\frac{1}{2}$ to 7 years) in this school the Valentine Test appeared to give an adequate picture of the group tested. It showed a high self-correlation ($\cdot 91$, P.E. $0\cdot 02$), correlated fairly highly with a broad criterion of teacher judgments ($\cdot 60$), and with later educational attainment ($\cdot 81$).

3.—With a group of backward readers (9-10 year age group), the Valentine Test predicted progress in reading with fair success (r . $\cdot 49$).

I should like to express my sincerest thanks to Professor Burt for the valuable help he has given me in the preparation of this paper.

THE INCIDENCE OF EMOTIONAL SYMPTOMS IN SCHOOL CHILDREN

By JEAN D. CUMMINGS.

I.—*Introduction.* II.—*Method of recording.* III.—*Incidence of symptoms.* IV.—*Sex differences.* V.—*Age differences.* VI.—*Parental attitude and type of symptom.* VII.—*Summary and conclusions.*

I.—INTRODUCTION.

In this paper no attempt has been made to distinguish normal from abnormal symptoms in childhood; the survey is of those symptoms which *might* be abnormal under certain conditions. It would, for instance, be very hard to say at what age nocturnal enuresis is merely a sign of incomplete bladder control and at what stage it may be regarded as a symptom of insecurity or anxiety; it depends partly on the child's chronological age, partly on his mental age and partly on his state of health, as well as on emotional factors. Similarly, symptoms such as restlessness and fidgeting may be due to boredom or bad classroom conditions, but they may also be symptoms of anxiety—and so they are included. It is possible to distinguish characteristics which may be normal in children of two or three—speech difficulties for example—and abnormal in children of seven or eight. There are also symptoms, such as habit spasms and stuttering, which most psychologists would consider abnormal at any age. For the sake of brevity and because the distinction between abnormal and normal is so much a matter of opinion (particularly for the nursery ages) all the symptoms have been called 'emotional.'

One of the aims of this research was to take an unselected sample of school children and find out the incidence of emotional symptoms among them. By this means one should get a preliminary conception of the types of emotional characteristics common at certain ages (and, therefore, presumably to be regarded as fairly normal and transient) and of symptoms that are less common and that will need special treatment if they are not to be prolonged. The teacher is faced with the question—"Is this behaviour serious, or will it pass?" "Should I refer this child to the Child Guidance Clinic or is that unnecessary?" In actual practice, a teacher tends chiefly to refer the children who give trouble—the bullies, the excessively stubborn—or the children who are markedly dull or backward. But she may often feel uneasy about the child who is markedly fearful of animals, or who is uncommonly 'good,' or always tired and listless.

This leads to the second aim of this research, which is to find out what symptoms tend still to be present in a child's behaviour after a lapse of time. To answer this question, the writer aimed at assessing the children's symptoms twice, the second time after an interval of six months had elapsed. Of course, it is not easy to state exactly the age levels at which certain emotional behaviour is to be expected, since so much depends on home circumstances; but over and above this, it may be possible to arrive at rough estimates of normality and abnormality of symptoms by (a) their frequency, and (b) their duration.

The record form used in the schools was based on the analysis made by Dr. Isaacs¹ from the letters of 572 parents concerning problems of their children's behaviour. Dr. Isaacs stresses the need to know the relative frequency of neurotic disturbance in infancy; in her own experience only a handful of children are without any sign of neurosis. The report form of Professor Valentine² was also used as a basis for classifying symptoms, although the writer had to plan her survey for use in schools and not in the home.

An American attempt to analyse children's fears was made by Jersild and Markey.³ Four hundred children of ages five to twelve were asked in private interviews to give specific details of their fears, dreams, etc. These investigators found that fears of the occult and the supernatural were most frequently mentioned (21%) and second in importance came fear of animals (17.8%). 4% had no fears at all. The fear of animals was more evident in children of five and six than in the older ones. Boys were less fearful than girls,

They also made the interesting comment that the actual experience of terrifying events does not correspond to the fear of them, but that the fears of younger children are 'closer to the soil'—i.e., they are more closely related to the actual experience, whereas the fears of older children are more fictitious (and presumably, therefore, more related to internal problems and conflicts).

Professor Burt and Mr. Robert Moore, in an article on mental differences between the sexes⁴, found that answers to a questionnaire showed that among children of 5-7 fear of animals was the most frequent specific fear (39% boys and 50% girls). Fear of persons (robbers, drunken men, etc.) came next (26% boys and 20% girls) and fear of inanimate objects came last (22% boys and 8% girls). Rather curiously in an older group of children aged 8-10 there was more fear of animals (82% boys and 61% girls). Fear of persons was admitted by 9% boys and 26% girls of this older group, and fear of inanimate objects by 9% boys and 5% girls. These figures are higher than those given by Jersild and Markey (which are for American children), but in the English questionnaire the children were asked 'questions as to the things most feared,' which perhaps assumes that something will be feared, whereas in the American work they were individually interviewed and 'asked for details as to specific fears, dreams, wishes, day-dreams, likes, dislikes, pleasant and unpleasant memories.' Here the specific fears are only part of a wider enquiry.

McFie⁵ asks the question "How can teachers recognise character traits that may prevent happiness?" In this research 697 children of twelve to fourteen were classified under headings of 'Personality Deviations' (timidity, emotional instability, etc.), 'Behaviour Disorders,' 'Habit Disorders,' and 'Scholastic Difficulties.' It was found that 46.2% had one or more symptom, 25% coming under 'Personality Deviations,' 29% under 'Habit Disorders,' 16% under 'Behaviour Disorders' and 6% under 'Scholastic Difficulties.' This investigator found that there was very little improvement while at school, though in a comparable group of children receiving treatment 43.5% could be described as 'much improved.' He, therefore, believes there is much scope for psychiatric help for children of these ages, who are not likely to improve in school.

The important work of Professor Burt, reprinted in his *Subnormal Mind*⁶ on the nature of neurosis in children is too familiar to need description. Recently he has compared the incidence of neurotic disorders in a peace-time group of children with the incidence among the same group after evacuation⁷. In both cases he found anxiety states figured largely. 'Anger neuroses' he found to be commoner among boys than among girls. Neurasthenia and hysteria were rare. The results to be described below corroborate some of his findings.

With regard to age differences, Dr. Bowley⁸ found that the ages of three and four were the most difficult for emotional adjustment. Among her group of 118 children, the fifth year of life seemed more stable. Difficulties in social adjustment to other children were again found to be chiefly at the three to four-year-old level, though there was no clear relationship of social adjustment and age. To some extent children of poor economic status showed better social adjustment both to adults and other children.

II.—METHOD OF RECORDING.

The subjects were 239 Leicester school children of ages two to seven inclusive. Three infants' schools were chosen, one in a slum-clearance working class district, and two on housing estates to which people had been moved from congested areas in the city. The effect of the war on the children was mostly indirect, since Leicester has suffered little bombing. Nevertheless, one must take into account the effects of the expectation of raids, sirens, etc. In all three schools there were nursery classes for children of three and four and war nurseries for two-year-old children. The question arises as to how far the younger children, of nursery ages, were representative groups. There is always the likelihood that children in nursery schools and classes will be the children of parents whose attitude towards them is either more neglectful or, on the other hand, more anxious; than the attitudes of parents generally, who wait until their children are five before sending them to school. The situation in Leicester is that every infant school has a nursery class for children aged three and four, with no condition of entry. These classes are now well-established and accepted,

particularly in the housing estates, and therefore Leicester is a favourable city for obtaining children who fairly represent three and four-year-old children of the Leicester population. The two-year-old children are not so representative. Fourteen schools have war nurseries for two-year-olds attached to the infant schools, and here there is a condition attached to the entry that the mothers must be on essential war work. The mother who leaves her two-year-old all day is not typical, and her child who is so left probably differs somewhat in independence and other characteristics from the two-year-olds who are still with their families. Indeed, my own impression of two-year-old children in the war nurseries I visited was that they are more sociable and independent than other children of the same age, yet at the same time perhaps suffering from a slight sense of insecurity as a result of being members of so large a group. Only fourteen of these war nursery children were included in the total group.

Nineteen teachers in all volunteered to observe a group of children from their classes for a month, and to record the characteristics and behaviour of the children under the headings of a Record Form. Notes on the headings were given verbally to the teachers. The size of the group was left to the discretion of the teacher, so that she might assess only as many children as she wished; but it was impressed on her that the sample, however small, must be a random one, chosen by alternate selection from the class register or some such method. This was not always understood and in the first place some corrections had to be made, to avoid intentional selection of children known to be 'nervous.' This correction was done by going through the class registers and picking out every second child (or in a big class every third child) for observation, if this had not already been done, and leaving out of account any cases that the teachers thought 'interesting' but which would not have been included in the sample by chance. The teachers were also asked to make the assessments again after six months had elapsed.

With such young children group testing of intelligence was not possible, and there was no opportunity for individual tests. One could not, therefore, estimate the influence of intelligence level on the incidence of symptoms. The only thing that could be done was to take, as far as possible, children from B stream classes—i.e., who were of average ability in the opinion of the teachers. Even this was not possible in the nurseries where there was no grading of children. Had the sample included more dull and backward children the incidence of symptoms might have been higher. In a group of this size, however, it was not possible to represent all the class levels.

It was also not practicable to get reliability coefficients. The teachers were extremely busy and could not be asked to repeat their assessments at once. With a lapse of time the assessments would differ considerably owing to the altering or fading out of symptoms, particularly in the younger groups. A low correlation would not necessarily mean poor reliability.

The majority of mothers were working and had only slight contact with the teachers. One could not, therefore, get much knowledge of night terrors, etc., except in certain cases where the mothers were anxious and came to the head teacher for advice. Even so, teachers were asked to record any information they could get from parents, and in the cases of the nursery children a good deal of information regarding the child's family was recorded.

After the first assessment had been made, the writer went through each form with the teacher, clearing up any ambiguities. For example, 'habit spasm' was, despite description, often taken to cover merely restless behaviour or irritating habits (such as pushing hair back off the face). 'Obsession' was often used to cover merely generalised anxiety, although in the notes to teachers it was described as 'specific worry (e.g., with regard to cleanliness, tidiness, etc.) shown more or less continuously over the month's observation.' A number of recordings under 'hysterical outbursts or illness' had also to be deleted because they were made of behaviour that should have come under 'frequent crying.' Prolonged screaming followed by vomiting, stiffening the body or headache were some of the types of behaviour coming under this section.

The record forms were then corrected where necessary and the writer had a play session with some children individually, to get more information if it was wanted. The children were asked to draw or model with plasticine and were encouraged to talk freely.

III.—INCIDENCE OF SYMPTOMS.

A statistical analysis of the data was carried out. The primary object was to determine how far the differences observed were attributable to the random fluctuations of ordinary sampling. In accordance with the usual convention, if the probability of a chance hypothesis is less than 1 in 20, the result will be accepted as statistically significant. Even if the probability is higher, the figures may show a trend which will not be statistically significant as judged by the ordinary standard, but may, nevertheless, be indicative of a genuine result which could be verified by more thorough investigation.

Table I shows the frequency (expressed as a percentage of the total number in the group) with which each symptom occurred, and the standard deviations of these percentages.

TABLE I.
INCIDENCE OF EMOTIONAL SYMPTOMS IN WHOLE GROUP (239).

<i>Item.</i>	<i>Percentage Frequency.</i>	<i>S.D.</i>	<i>Item.</i>	<i>Percentage Frequency.</i>	<i>S.D.</i>
Restlessness, fidgeting	22.2	2.7	Disturbed sleep	5.9	1.5
General anxiety or timidity...	19.7	2.6	Stealing	5.4	1.5
Poor concentration in lessons ..	18.0	2.5	Masturbation	5.4	1.5
Frequent visits to lavatory	16.7	2.4	Fear of other children	5.0	1.4
Excitability	14.2	2.2	Frequently and easily tired ..	4.6	1.3
Laziness	12.9	2.2	Hysterical outbursts	4.6	1.3
Aggressiveness	10.9	2.0	Fear of sudden noises	4.2	1.3
Speech difficulties (not stam- mering or stuttering).....	10.0	1.9	Obsession	4.2	1.3
Frequent crying	9.6	1.9	Moodiness, depression	3.7	1.2
Pencil chewing	9.2	1.9	Nose-picking	3.7	1.2
Fear of animals	8.8	1.8	Stammering, stuttering.....	3.3	1.2
Fear of strangers	8.4	1.8	Bad body posture	3.3	1.2
Lying	8.4	1.8	Habit spasm	2.9	1.1
Obstinacy	8.4	1.8	Easily disgusted	2.9	1.1
Lack of appetite	7.9	1.7	Nail-biting	2.5	1.0
Failure of bladder or bowel control	7.9	1.7	Truancy	2.5	1.0
Excessive shyness	7.5	1.7	Frequent headaches	2.5	1.0
Cruelty	7.1	1.7	Poor body tone	2.5	1.0
Sulkiness, peevishness	7.1	1.7	Bed-time problems	2.1	0.9
Babyish behaviour	6.3	1.6	Tendency to constipation	2.1	0.9
Food faddiness	6.3	1.6	Tendency to indigestion, stomach- ache	1.7	0.8
Thumb-sucking	6.3	1.6	Other specific fears.....	1.2	0.7
Excessive day-dreaming	5.9	1.5	Sex habits (not masturbation)..	0.8	0.6

It has to be borne in mind that these symptoms are only those which occur and are noticed in school hours (unless mentioned by the parents to the teachers). Therefore, the estimate of the frequency of night-terrors, bed-time problems, etc., is unlikely to be of much value. The children's physical ailments (particularly constipation) are also to a large extent unknown to the teachers. Sex habits are probably under-estimated, owing to reticence on the part of parents and teachers and owing also to lack of opportunity for observing them.

More important is the predominance of generalised anxiety states, which agrees with Burt's finding (16.1% boys and 30.8% girls). Of fears related to specific objects, fear of animals occurs fairly frequently (8.8% children). This is in agreement with Jersild and Markey, who found fear of animals only second in importance to fear of the supernatural, and with Burt and Moore, who found it of first importance.

Restlessness and poor concentration have a very high incidence and were constantly mentioned by the teachers. It is of course possible to record a child as 'lazy,' 'lacking in concentration,' or, in some cases, to record the anxiety or fatigue that seems to underlie these symptoms; much depends on the teacher's character and observation and knowledge of the child. If, for instance, she knows of his mother's habit of keeping him up late, she will more readily describe him as 'tired' than as 'lazy.'

Frequency of micturition may be rather over-emphasised; it must be remembered that frequent visits to the lavatory may sometimes indicate boredom with the lesson in hand.

Of nervous habits, pencil-chewing is much recorded—perhaps because less censured than the nail-biting it may replace.

Sthenic symptoms are reported less frequently than asthenic in this sample, but this may be due to the unconscious direction of attention to 'nervous' rather than 'difficult' symptoms in children.

The next process was to group the symptoms together. For convenience of comparison the 46 different symptoms recorded by the teachers have been grouped together to form 18 groups of related symptoms. This meant re-scoring the children to eliminate overlapping. Thus, if one child was afraid of dogs and also of other children, he would be recorded only once under 'specific fears.' The percentage frequency represents the percentage of children who have one or more specific fear. The grouping of symptoms is of course rather arbitrary, since nail-biting and nose-picking may be regarded as aggressive habits (if the Freudian view is accepted), whereas thumb-sucking is primarily a 'comfort' habit—i.e., one to which a child resorts when frightened or shy or sleepy.

TABLE II.
INCIDENCE OF SYMPTOMS (GROUPED).

Item.	Percentage Frequency.	Item.	Percentage Frequency.
Excitability, restlessness	28.9	Lack of appetite, food faddiness ..	11.3
Day-dreaming, lack of concentration, laziness	28.9	Babyish behaviour, frequent crying ..	11.3
Generalized anxiety, timidity or shyness	23.0	Lying, stealing	10.1
Specific fears	22.2	Tendency to constipation, headache, stomach-ache	9.2
Bladder control, frequency of micturition	21.3	Obstinacy, disobedience	8.8
Nervous habits	18.0	Bed-time problems	7.1
Cruelty, aggression	15.1	Undesirable sex habits	6.3
Speech difficulties	14.2	Easily and frequently tired	4.6
		Obsession	4.2
		Hysterical outbursts	4.2

In this table, lack of concentration and restlessness are still of primary importance, but nervous habits, when grouped together, gain a new importance. No one habit is particularly important, but a large percentage of children have one or more 'nervous' habits.

IV.—SEX DIFFERENCES.

The same procedure was adopted, this time taking boys and girls separately and recording the *differences* between the percentage frequencies.

TABLE III.
SYMPTOMS PREDOMINATING IN BOYS (133 BOYS, 106 GIRLS).

	Boys.	Girls.	Difference.	χ^2	P	r_t
Day-dreaming	9.0%	1.9%	7.1	5.45	.019	+.42
Cruelty	10.5	2.8	7.7	5.29	.021	+.38
Aggressiveness	14.4	6.6	7.8	3.59	.058	+.27
Obstinacy	11.3	4.7	6.6	3.31	.069	+.28
Disturbed sleep	8.2	2.8	5.4	3.17	.075	+.31
Excitability	17.2	10.4	6.8	2.33	.127	+.20
Poor concentration	21.0	14.1	6.9	1.90	.168	+.17

In order to test the statistical significance of the differences found, chi squared ($\chi^2 = \sum \left(\frac{x^2}{m} \right)$) was calculated and is given in the fourth column of Table III. The fifth column gives the corresponding value of P and shows in each case what the chance would be of the same result arising from random sampling. Only the larger differences are shown. The tetrachoric correlations which are given are regarded as positive if the symptoms are more strongly associated with boys.

TABLE III—Continued.
SYMPTOMS PREDOMINATING IN GIRLS.

	Boys.	Girls.	Difference.
Food faddiness	3.7%	9.4%	-5.7
Fear of animals	6.0	12.2	-6.2
Fear of loud noises	2.2	6.7	-4.5
Fear of other children	3.7	6.6	-2.9
General anxiety	18.0	21.7	-3.7
Failure of bladder control	6.7	9.4	-2.7
Frequent crying	7.5	12.2	-4.7
Hysterical outbursts or illness	3.7	5.7	-2.0
Easily and frequently tired	3.0	6.6	-3.6

The frequencies of symptoms predominating in girls are for the most part small, and in all cases χ^2 is insignificant and $P > .05$ (for Food faddiness $P = .072$ and for Fear of animals $P = .089$).

Here aggressiveness, cruelty, day-dreaming and obstinacy are found more frequently in boys than in girls, and the differences are so large as to be significant. In general, we may say that boys tend to be more 'difficult' than girls, and girls to be more anxious or timid, though the differences in fearfulness are not statistically significant.

In Table IV boys and girls are compared for the *total* number of symptoms shown.

TABLE IV.

	Total No. of Symptoms.	Expected No.
Boys (133)	373	333
Girls (106)	226	266
(239)	599	599

$$\chi^2 = 11.00. \quad P = .001.$$

This is a significant result and suggests that boys suffer more frequently from emotional difficulties, or that these difficulties are more noticeable among boys—hence the fact that more boys than girls are referred for treatment at Child Guidance centres. Recently Banister and Ravden⁹, in an analysis of the data of children examined at the Cambridge Child Guidance Clinic, showed that a larger proportion of boys were referred than girls. Even excluding aggressive and 'nuisance' symptoms, boys were in the majority for 'nervous' and 'backward' symptoms. Further confirmation, however, is needed:

Taking boys and girls in three age groups, we have :

TABLE V.

AGE.	Boys.		GIRLS.		χ^2 .	P.
	No. symptoms	Average.	No. symptoms	Average.		
2-3.11	123	2.86	47	1.62	11.38	.001
4-5.11	138	2.42	125	2.19	.65	.211
6-7.11	112	2.80	54	2.00	4.11	.043

The first and last differences are significant ; so we may say that between the ages of two and seven inclusive, boys show more symptoms than girls. With regard to the group of girls of 4-5.11, the discrepancy in the total number of symptoms is: probably due to differences in standards of the teachers making the observations.

V.—AGE DIFFERENCES.

The children were all in the infants' school, though some had turned seven. The numbers in each age group were :

2.0—2.11	14 children	(War nurseries).	5.0—5.11	60 children	(Infants' classes).
3.0—3.11	44	„ (War nurseries and	6.0—6.11	44	„ (Infants' classes).
		nursery classes).	7.0—7.11	23	„ (Infants' classes).
4.0—4.11	54	„ (Nursery classes).			

Table VI gives the number of symptoms recorded for each age group.

TABLE VI.

<i>Age.</i>	<i>No. in group.</i>	<i>No. of symptoms.</i>	<i>Average No.</i>
2—2.11.....	14	57	4.07
3—3.11.....	44	161	3.66
4—4.11.....	54	140	2.60
5—5.11.....	60	203	3.39
6—6.11.....	44	162	3.68
7—7.11.....	23	50	2.17
	239	773	3.24

<i>Source of Variance.</i>	<i>Analysis of Variance Sum of squares.</i>	<i>Degrees of Freedom.</i>	<i>Mean Square.</i>
Total Variance	2135.7573	238	—
Variance within age-groups	2065.9078	233	8.867
Variance between age-groups	69.8495	5	13.970

$$F=1.576. \quad P>0.05.$$

This analysis, for which I am indebted to Capt. L. J. Holman, shows that the difference in the average number of symptoms of children of different ages is chiefly due to chance. The variance due to age is an insignificant part of the total variance.

Taking now the symptoms grouped in the wider classification (over-lapping eliminated) we get Table VII. Chi-squared was calculated, as before, to test the statistical significance of the differences found. In this case the expected frequencies for each age group are :

$$\frac{\text{No. in age group} \times \text{no. symptoms.}}{\text{Tot. no. children}}$$

The corresponding values of P are also given. Only the more important differences between the age groups are shown in this table.

TABLE VII.
AGE GROUPINGS TWO YEARS AT A TIME (WITHOUT OVERLAP).

	2—3.11	4—5.11	6—7.11	χ^2 .	P (2 degrees Freedom)
Lack of bladder control	41.4%	14.1%	16.4%	15.03	< .001
Specific fears	32.7	22.0	13.4	5.23	.07
Lack of concentration, day-dreaming.	15.5	30.7	37.3	5.31	.07
'Nervous' habits	22.4	12.3	24.9	3.97	.12
Restlessness, excitability	37.9	22.8	31.4	3.31	.20
Cruelty, aggression	22.4	11.4	14.9	3.18	.21
Lying, stealing	0.0	9.6	19.4	3.00	.23
Generalised anxiety	22.4	21.9	25.3	.24	> .61

The decrease with age in symptoms connected with bladder and bowel control is what one would expect; 46.6% of the nursery children are incontinent or have to go to the lavatory very frequently. Table VIII shows the figures for the years taken separately (not significant).

TABLE VIII.

<i>Age.</i>	<i>Lack of bladder control.</i>	<i>Frequent visits to lavatory.</i>
2-2.11	21.4%	35.8%
3-3.11	18.2	25.0
4-4.11	5.6	9.2
5-5.11	5.0	18.3
6-6.11	4.5	13.6
7-7.11	0.0	8.7

There is, therefore, greater control with increasing age, but the single year figures suggest a slight increase in frequency of micturition at five—perhaps partly due to greater constraint in school hours and a consequent desire for a 'break' in the form of a visit to the lavatory. Specific fears seem to decline with increasing age, whereas generalised anxiety does not. Table IX shows this in more detail.

TABLE IX.

<i>Age.</i>	<i>Generalised anxiety.</i>	<i>Fear of animals.</i>	<i>Fear of strangers.</i>	<i>Fear of other children.</i>
2-2.11	(14.3)%	(7.1)%	(14.3)%	(7.1)%
3-3.11	20.5	11.4	18.2	9.1
4-4.11	16.6	7.4	13.0	9.2
5-5.11	18.3	10.0	5.0	3.3
6-6.11	27.3	9.1	0.0	0.0
7-7.11	17.4	4.3	0.0	0.0

As there were only fourteen children in the 2-2.11 group, the frequencies here are given only for completeness and are put in brackets to indicate little statistical significance.

Of specific fears, the fear of animals seems to persist the longest (which may account for its being the most general fear of early childhood). But in general, specific fears seem to decline steadily with increasing age.

Anxiety states increase in frequency at the five and six year level and it may be that the beginning of formal work (which begins at five in these infants' classes), and the dropping of free play have something to do with it. It is likely that the free play of the nursery has a definite therapeutic effect which may be lost when it is dropped.

One important age group difference (see Table VII) is in lack of concentration, restlessness, laziness, when these are grouped together. This symptom increases markedly with age. It seems evident that this is not so much an individual symptom as a characteristic of a large proportion of children when they are faced with formal work and the inhibition of free movement about the room. To some extent free movement, which is considered natural to children in a nursery class, may be considered 'restless' in an infants' class. The children, at any rate, become conscious of a certain measure of disapproval if they are too active, and this disapproval may have some effect on the incidence of symptoms such as anxiety and timidity. The three and four-year-old children are presumably so well-satisfied that they have a capacity for spontaneous attention to the interesting that to some extent deserts them when they can no longer choose their activities. Here again, we want more information. In what lessons is 'laziness' shown—if, for example in drawing, is it in copy drawing or in 'free' or both? Table X shows the frequencies for the years taken separately. Once again these figures are given only for their suggestive value.

TABLE X.

<i>Age.</i>	<i>Lack of concentration.</i>	<i>Laziness.</i>	<i>Restlessness.</i>	<i>Excitability.</i>
2—2·11	(0·0)%	(0·0)%	(21·4)%	(21·4)%
3—3·11	6·8	4·5	22·7	20·5
4—4·11	7·4	11·1	16·6	7·4
5—5·11	28·3	20·0	20·0	13·3
6—6·11	29·5	18·2	27·2	15·9
7—7·11	26·1	13·0	21·8	13·0

Another symptom that increases with age is lying and stealing (taken together), though greater numbers are required to give the result significance. The teachers did not record any lying in the two and three-year groups and very little stealing; this shows a recognition of the fact that the 'tall stories' of the small child are not in any sense 'lies,' and that the collecting of school chalks, beads, etc. (which were discovered in coat pockets) is mostly just the innocent picking up of desirable toys without accompanying guilt feelings.

Sex habits (masturbation chiefly) show a decrease with age, but the figures are too low to be significant. The decrease in masturbation may well be due to an increase in the child's power of disguise and increasing self-consciousness (the two and three-year-olds often masturbate fairly openly). Of course, very little is known of nocturnal sex habits.

With regard to 'nervous' habits, there seems to be a dropping of thumb-sucking, sucking of bricks, etc. (which may be called 'comfort' habits) in the nursery, with a regression at five (not significant). Here there seems to be a replacement of nail-biting, nose-picking and biting of fingers generally by pencil-chewing—probably because it is more socially admissible and less noticeable.

VI.—PARENTAL ATTITUDE AND TYPE OF SYMPTOM.

It was not easy to get reliable information about the attitude of the children's parents, but from a wealth of notes made by the teachers it was possible to classify very roughly the parents (chiefly mothers) of 35 children into:

(1) Those who tended to neglect their children somewhat, or who were away from home a great deal (a large number were at work). (Seventeen children.)

(2) Those who were over-anxious about their children, who were constantly talking of their ailments or who 'made a baby' of them in the matter of putting on coats, scarves, etc. (Eleven children.)

(3) Those who 'spoil' their children by giving way to them too much; who made them the centre of the home life. (Seven children.)

Groups (2) and (3), while not by any means synonymous, were much nearer to each other than to (1). So, to give a possibility of statistically significant results (2) and (3) were combined into one group. The numbers were then:

Neglectful or absent parents.....	17
Over-anxious or over-indulgent	18

There were also two children whose parents could be described as harsh, almost cruel in attitude. Four children (girls) came from extremely poor homes. One cannot judge from four cases, but these four children had comparatively few emotional symptoms, apart from the very common 'restlessness.' One girl of 5·8 was pale, thin, constantly tired, given to crying continually. Here the neurasthenic symptom may have been due in part to under-nourishment. But in the main poverty had no great influence among these Leicester children.

Taking two classes of symptoms—the anti-social or behaviour problems (lying, stealing, cruelty, aggression, obstinacy) and the 'nervous' (fears, anxiety, nervous habits, lack of bladder control, sleep disorders, neurasthenia, speech disorders)—we have:

TABLE XI.
NO. OF SYMPTOMS.

	<i>Anti-social symptoms.</i>					Total.	<i>Anxiety symptoms.</i>					Total.
	0	1	2	3	4		0	1	2	3	4	
Neglected children	6	4	1	4	2	17	5	8	3	1	0	17
Spoilt or over-protected children....	12	5	1	0	0	18	0	4	10	2	2	18
TOTAL	18	9	2	4	2	35	5	12	13	3	2	35

$r_{bis} = \cdot 576 \pm 0\cdot 071.$ $r_{bis} = \cdot 682 \pm 0\cdot 105.$

Grouping the symptoms :

	<i>No. of anti-social symptoms.</i>			<i>No. of anxiety symptoms.</i>		
	0-1	2-4	Total.	0-1	2-4	Total.
Neglected children	10	7	17	13	4	17
Spoilt or over-protected	17	1	18	4	14	18
	27	8	35	17	18	35

$$\chi^2 = 4.433. \quad P = 0.035. \\ r_t = 0.705.$$

$$\chi^2 = 8.233. \quad P = 0.004. \\ r_t = 0.754.$$

These results are significant, and show that the children of parents constantly absent or neglectful tend to be 'difficult'—to have more symptoms of aggression, stealing, etc., than the 'over-protected group,' seventeen of whom have only one anti-social symptom or none at all. The 'over-protected' group, on the other hand, show more 'nervous' symptoms. The extent of the associations is shown by the tetrachoric correlations. It may be that the constant society of an over-anxious mother induces a similar state of anxiety in the child—as is well recognised; in time the child himself becomes fearful of catching colds, or crossing roads, of animals, etc. On the other hand, the child may inherit the mother's tendency to over-anxiety. The neglected child, on the other hand, lacks the affectionate companionship of his mother and father, and their discipline and surveillance, and it seems quite natural that he should be more anti-social. Banister and Ravden⁹, referred to above, found a similar result—nervous symptoms were associated with 'Accord' homes, delinquency with 'Broken' homes.

VII.—SUMMARY AND CONCLUSIONS.

1.—Of emotional symptoms, restlessness, lack of concentration, and excitability, have a very high incidence among children aged two to seven inclusive.

2.—Generalised anxiety predominates over any one specific fear, though fear of animals is common (8.8% children have this fear). When specific fears are grouped together the incidence is about equal to that of anxiety states. 22.2% children have one or more specific fears; 23% suffer from generalised anxiety.

3.—'Nervous' habits, when grouped together, have a fairly high incidence (18% children show one or more). No one habit predominates.

4.—Boys show significantly more symptoms than girls. Boys are shown to be significantly more aggressive, cruel and obstinate than girls and also to be more lacking in concentration. Girls tend to be more fearful of animals and more fearful generally, but the figures are not statistically significant.

5.—Age-group differences in the total number of symptoms were not significant.

6.—Significant age-group differences were obtained for symptoms connected with bladder and bowel control. Incontinence and frequency of micturition decrease with age.

7.—The results suggest that specific fears decline with age. There was a steady downward trend for fear of animals, fear of strangers, and fear of other children, as well as for specific fears taken as a group ($P=.07$).

8.—There was no significant difference in the incidence of anxiety states between the age groups.

9.—Day-dreaming and lack of concentration apparently increase with age; this may be due in part to the beginning of formal work and the dropping of free play.

10.—Lying and stealing were more frequent in the older groups, but the difference is not significant.

11.—Comfort habits (thumb-sucking, sucking bricks, etc.) tend to decrease with age, but there may be a regression at five (figures only suggestive). Pencil chewing seems to replace nail-biting, biting the fingers and nose-picking at this age.

12.—Parents could in thirty-five cases be roughly classified into two groups—the neglectful or frequently absent parents and the over-anxious or spoiling parents. There was a significant difference in the types of symptoms shown by the children of the two groups. Over-protected children showed more 'nervous' symptoms than 'neglected' children. Neglected children, on the other hand, were more anti-social in that they were more frequently described as aggressive, cruel, lying, etc.

In so far as restlessness, fidgeting, lack of concentration, etc., are signs of anxiety, the incidence of generalised anxiety states would seem to be very high—by far the most important of the symptoms recorded. Generalised anxiety may to some extent replace the small child's fear of animals and other specific fears which have here been shown to decline in frequency with increasing age. If heightened anxiety is a war effect, a post-war survey may reveal a lower incidence. A further investigation is needed into the nature of general 'restlessness.' In so far as it is boredom, smaller classes, more individual teaching and particularly more outlet for phantasy in the form of free play, drawing, modelling, etc., might do much. Here again, further research is needed upon the incidence of restlessness in different types of school and for different class subjects. The investigation should also be extended to cover older children.

In a second article the writer hopes to give some notes on the development or diminution of symptoms after six months have elapsed.

The writer's thanks are due to the teachers who so conscientiously made the records, to the Director of Education for Leicester for permission to work in the schools, to Dr. A. Bowley, and to Professor Burt and Capt. L. J. Holman for much helpful advice; to the last-named also for carrying out some of the statistical calculations.

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A LIST OF RESEARCHES IN EDUCATIONAL PSYCHOLOGY AND TEACHING METHOD.

PRESENTED FOR HIGHER DEGREES OF BRITISH UNIVERSITIES FROM 1918
TO THE PRESENT DAY.

Classified according to Dewey's Decimal System by

A. M. BLACKWELL,

Department of Education, University of London King's College,

With a Foreword by F. A. CAVENAGH.

PART IV.

Subsidiary papers:

- (1) An experimental investigation into transfer of training in skilled performances (with E. M. Yates).
(*B.J. Psych.*, Vol. XVIII, Part 4, April, 1928.)
- (2) 'Transfer of training' and 'transference' (with T. H. Pear and E. M. Yates).
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(To be continued.)

BOOK REVIEWS.

Frustration and Aggression: By JOHN DOLLARD and others. (London, Kegan Paul, Trench, Trubner and Co., Ltd., pp. 150. 10s. 6d. net.)

The International Library of Sociology and Social Reconstruction has already established itself by the high standard of the books included. This volume is to be welcomed as a very useful addition to the library. It was originally published in 1939 by the Institute of Human Relations, Yale University, and is an interesting and informative record of co-operative research into the problem of aggressive behaviour. It is also an example of the application of the procedure of induction—deduction.

The volume opens with an important chapter on "Definitions." This is followed by two chapters on Psychological Principles. "Socialisation in America," dealing with "the frustrations incident to growing up and living as an adult in American society," is the theme of the next chapter, and this is followed by one on "Adolescence," an instructive summary of this critical period of adjustment. Appropriately, this leads to a section on "Criminality," viewed "not as a function of the absolute level of frustration nor of the absolute degree of anticipated punishment, but as a function of the discrepancy between the two." The general topic of Chapter IV led to the consideration of the regulation of aggression resulting from the frustrations involved in being and remaining socialised. This question of the mechanisms of social control is dealt with in the chapter on "Democracy, Fascism and Communism." The final chapter discusses "A Primitive Society: The Ashanti," in which "an attempt has been made to use the frustration-aggression hypothesis as a basis for organising certain aspects of the anthropological materials."

Whether the authors have succeeded in their attempt "to explain aggressive behaviour in terms of prior frustrations" or not, they have produced an interesting and provocative book which should lead to further research on a very important question.

Child Psychology: BY SKINNER AND HARRIMAN. (Macmillan. 12s. 6d.)

The eighteen chapters of this book are contributed by fourteen writers—teachers in universities and colleges throughout America. Each writer deals with one or more aspect of child development—e.g. Heredity; Physical Growth, Emotional, Mental, Social, and Religious Development; Aesthetic Experience; Play; and the Learning Process. The function and working of a Psychoeducational Clinic are also described and there is a discussion of modern methods of education in relation to child development.

Although the contributors are many, the point of view is the same throughout—all stress the need for regarding the child as "an integrated, growing personality" who must be studied by observational and experimental methods, unbiassed by preconceived theory. While very brief accounts of the views of other schools are occasionally given, the attitude is predominantly behaviouristic, and any theory which cannot be proved by accurate, experimental evidence is treated with scant respect. Thus, while it is acknowledged that "some of the main points" emphasised by the Gestalt study of learning "have great value in child study," it is claimed that Gestalt theory "is not widely accepted because some of its generalisations have little or no scientific evidence to support them." Psychoanalytic contributions to child study receive even less attention, for 'psychoanalysis,' according to these writers, "is more of a cult than an established scientific point of view."

Within these limitations the facts given are simply and clearly presented and well-illustrated; each chapter outlines economically and concisely a definite body of knowledge, further details of which can be got by use of the careful bibliography (chiefly of American writers) appended to each chapter. The student can test his comprehension of the material studied and follow up ideas suggested by working through the list of tests and exercises set on each topic.

The book should prove a useful introduction to child study and should make the student aware of the need for carefully controlled experiment and observation, and the dangers of subjective interpretation of children's behaviour.

M.C.P.

The Psychology of Women: By HELENE DEUTSCH, M.D. (Grune and Stratton, New York, 1944, pp. xiv+399.)

The writer of this book was trained by Freud and we are told that her approach to her subject is 'intuitive.' She herself admits that "several of the problems discussed here have given rise to lively debate."

This much said, and, in addition, attention having been called to the fact that the writer is of necessity biased in her conclusions by the fact that her evidence is nearly all drawn from the abnormal field while her attempt is to apply it in the normal, it remains true that the book contains some stimulating theses. Particularly valuable, although speculative, are her comments on the effects of the present war-time disturbance of the social atmosphere on the American adolescent girl.

It is regrettable that the author only scantily illustrates her text with case histories and leaves many assertions resting upon the somewhat dubious evidence of literary portrayals of character. Nonetheless, even the most speculative things are said in lively fashion and while there is little objective fact on which the finger can be put, the opinions of so experienced an observer are well worth hearing, discussion and, where possible, putting to a controlled test.

Rorschach's Test 1.—Basic Processes: By SAMUEL J. BECK, Ph.D. (Grune and Stratton, New York, 1944. pp. xiii+223. 3.50 dollars.)

For serious workers with the Rorschach Test this volume is indispensable. Rorschach's original scoring categories, conservatively developed in the light of much recent research and Dr. Beck's own extensive experience, are here very clearly illustrated and in some cases statistically evaluated. Thus the book here considered will do much to eliminate the subjective variations in scoring responses which have hindered validation experiments with Rorschach findings.

In many categories the author parts company with other writers on the subject; but, although the symbols used differ, in most essentials he agrees with KLOPPER AND KELLEY, whose book was previously reviewed in this *Journal*. With admirable candour he clearly differentiates those categories and scorings which are statistically justified from those in which subjective judgment is still paramount in the absence of reliable evidence. His lists of common and uncommon details, of F+ and F- responses and of sigma scores for organisation of details are of great practical use, as too are the discussion of approach and sequence and the list of popular responses.

The complexity of scoring which necessitates so exhaustive a manual of illustrative material does, however, raise the question of whether the test itself is of more theoretic than practical value, whether the time consumed in administration and scoring produces a more accurate diagnosis than could be obtained by a well-directed clinical interview. The answer is, I think, that the test is a very useful clinical adjunct, especially with a suspicious or defensive patient. W.D.W.

The Nature and Treatment of Mental Disorders: By DOM THOMAS VERNER MOORE, O.S.B., Ph.D., M.D. (Grune and Stratton, New York, 1943.)

The author of this book is the Professor of *Psychiatry* in the Catholic University of America. The book is unusual in that it is by a *psychiatrist* who both understands and makes use of statistical treatment, including factor analysis, and causes of neuroses. As a result he frequently points out the lack of convincing evidence for a number of facile generalisations sometimes made by analysts.

The book is divided into four parts, the first dealing with Psychopathology, the second with methods of analysis, the third with more miscellaneous 'techniques' in treatment; this includes some interesting chapters on family problems and on Educational Therapy and 'Bibliotherapy.' The fourth part deals with the more physiological aspects of emotional disorders and pharmacological treatment.

The discussion may be thought at times not very fundamental but it is always suggestive and on the whole logical and cautious. It is a book which could be read with interest not only by the experts but by the beginner in the study of mental disorders.

Education for Democracy: By J. D. G. MEDLEY. *A Plan for Australia*. (Australian Council for Educational Research, Melbourne. 6d. each.)

Educational reform is in the air. These two pamphlets are the first two to be published in a series dealing with "The Future of Education in Australia." The Australian Council for Educational Research has wisely decided to issue a number of these on different topics within the educational field, and could not have made a wiser choice for the author of the introductory book than the Vice-Chancellor of the University of Melbourne. His pamphlet is a clear statement of views on "Education for Democracy" and provides a useful basis for discussion.

The second pamphlet deals with such important topics as "Educational Authorities; Functions of State and Municipal Authorities"; "General Reorganisation"; "The Teaching Service"; "Non-State Schools." On all these subjects a profitable discussion and appropriate action might be expected to follow.

The American Character: By MARGARET MEAD. (London, Penguin Books, pp. 173. 9d.)

The publishers of "Pelican Books" are to be congratulated on making this reprint of the American book *And Keep Your Powder Dry* available to readers in this country. The book was written for Americans and this is an unaltered edition of that original; but there is a delightful "Preface from England." The authoress, who is a world famous anthropologist, has written an interesting and important book which should have large sales here, for we all need to learn much about the "American Character."

Widening Horizons: By P. R. MORRIS and others. (Littlebury and Company, Ltd., pp. 127. 6s.)

Only exceptionally good broadcast discussions when presented in book form read as anything but hazy artificialities lacking edge and substance. Some of the present ones rise to a high level of interest and provide a mild stimulus to thinking on educational topics of wide general bearing; but one feels that the range and generality of the topics is too large and the determined attempt to be non-controversial too obvious for the conversations not to lack spontaneity and bite.

